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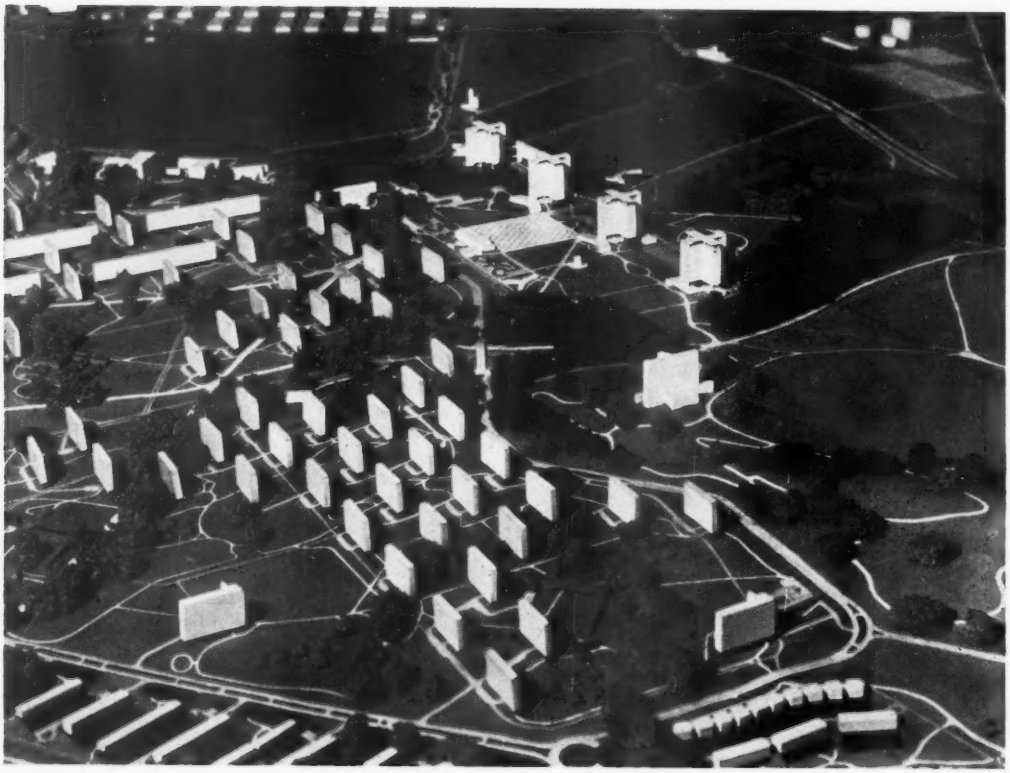
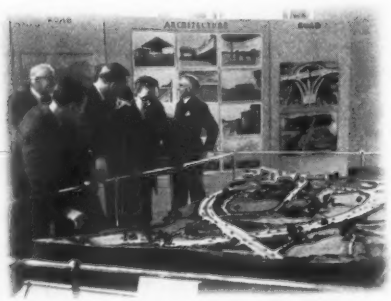
CONTENTS FOR 20 MARCH 1939





ROAD ARCHITECTURE EXHIBITION

Above: Part of a model of a town for 50,000 inhabitants on a site in Berkshire planned by a group of young architects in association with the School of Planning and Research for National Development. The photograph shows terrace housing in the extreme foreground, the town centre with its four tall administrative buildings and public square in the background, and blocks of flats in between.

Left: Mr. Herbert Morrison, M.P., at the opening of the Exhibition. The model is by the British Road Federation. (Photograph by courtesy of *The Light Car*.)

JOURNAL OF THE
ROYAL INSTITUTE *of* BRITISH ARCHITECTS

VOL. 46 3RD SERIES 20 MARCH 1939 No. 10

Journal

THE ROADS EXHIBITION AND PLANS FOR BRITAIN

The Exhibition of Road Architecture continues to attract attention and the attendances have been good. The Exhibition will only be at the R.I.B.A. until the end of the month, so that members are advised not to let any chance of a visit slip by, and to bring their friends. Everyone—at least, everyone who has ventured opinions boldly enough to reach official ears—has said that it is, without question, the best-planned exhibition the R.I.B.A. has yet staged. The display is good and the story displayed is worth telling. More than any previous exhibition this one is purposeful and critical. The Committee have seized on all the implications of their theme and followed them (if that is what one does to implications) to what has often proved to be a very bitter end. There is a relentlessness in the plan of the screens which courageously allows the spectator no digression until he reaches the end. The School of Planning *City of the Future* comes just at the right point before the end, which is designed skilfully as a tragic retrospective glance. It is tragic, this exhibition —all but the vision of that city, since that, at any rate, is not a lost cause yet, nor need it ever be if the energies that created it are really utilised. No one, least of all any of its creators, thinks that the last word has been said —but it is, perhaps, the most important theoretical (in the hard scientific sense) contribution to planning that has been made in England for a long time.

. . . AND PLANNERS FOR BRITAIN

Town planning has always been an architect's job. Modern town-planning science in England was born and nurtured inside the R.I.B.A., where the first Town Planning Conference was held in 1910. While, on one hand, we claim so much to-day for the architectural profession, it would be unutterably foolish if, on the other, by default we allowed the profession's great part in town planning to drop away into the hands of people who, whatever qualifications they possess as surveyors and engineers, do not possess the architectural sense that we conceive to be at the root of all good planning. Planning is in the end *done* by the people in the official planning jobs and the official jobs go to the people with recognised qualifications ; the others, architects who are interested in planning and theorists generally, can have an enormous share in the evolution of planning ideas but it is the men on the spot who carry the ideas out and on the quality of whose sense depends the extent to which progressive ideas can be absorbed into current technique.

Planning jobs go to the people with planning qualifications so that it is tremendously important that the proportion of architects in the profession of town planning should be maintained by a constant accession of architect members.

PRESERVING COTTAGES OF ARTISTIC OR HISTORIC VALUE

A short time ago the Ministry of Health published two documents on the " Demolition of Individual Unfit Houses in Rural Areas."* The first was the report of a special sub-committee of the Central Housing Advisory Committee which had been appointed in response to the many complaints that had been made that the slum clearance and overcrowing Acts had resulted in the demolition of many beautiful or interesting cottages. According to present law, a demolition order cannot be rescinded even when it can be shown that the building can be satisfactorily reconditioned or converted for non-residential use.

In the second document the Minister outlines and accepts the recommendations made in the report, though he has not, unfortunately, seen his way to allow the rescinding of a demolition order where it is shown after the order has been made that the building can be reconditioned or converted. This means that since no " second thoughts " are allowed every possible precaution must be taken to assure that they are not necessary, and the gist of the report is to provide for such precautions, to assure that no cottages worth keeping are scheduled for demolition. In short, the Minister's proposals, arising out of the report, are (*a*) that it should be made quite clear to the owner that if he fails to recondition his property the inevitable

* (*1*) *Report of the Demolition Procedure Sub-Committee of the Central Housing Advisory Committee.* H.M.S.O. 4d. June 1938. Published January 1939.

(*2*) *Circular No. 1762.* H.M.S.O. 1d. Dated January 1939. Minister of Health accepts and outlines the recommendations.

demolition order cannot be rescinded later; (*b*) that district councils should tell the owner that reconditioning grants are obtainable and that the particular defects of the building in question will be defined if he wants further explanation; (*c*) that personal contacts should always be established between the councils' officers and the owner to explain procedure to him in a friendly way; and, finally (*d*) that if the house has architectural merits or historic value the council should obtain a report on it from a person specially qualified to give his opinion on such merits.

There is an obligation here on architects in rural districts to respond to the Minister's action by notifying their local authorities of cottages worthy of preservation, by keeping themselves well informed as to the grants that are obtainable for reconditioning so that their clients can get accurate advice and by strengthening the local panels and supporting them generally, because it is probable that local councils will be willing to accept the panels' advice about preservation and the possibilities of reconditioning. Finally, the Allied Societies can do a lot by discussing the matter and sending suitably worded reminders of the Minister's advice to the local authorities in their areas.

Exhibition of Cotman Drawings

Some months ago Mr. Sydney Kitson's bequest of almost a hundred drawings by John Sell Cotman, probably the finest gift the library has received this century, was reported in the JOURNAL. Some members may have wondered why the news of the gift was not immediately followed by the illustration and description of some of these lovely drawings; the reason for our restraint was certainly not, however, any feeling that members would not be interested to know soon exactly what the gift included, but the Library Committee's desire not to fritter away the significance of the gift in partial exhibition: the Committee preferred to reserve all publication to coincide with a big exhibition which has now been fixed for June next. During the whole of June the complete gift, or all the more important items from it, will be exhibited in the Henry Florence Hall and will make, certainly, one of the most important exhibitions of the works of the greatest of all English water-colourists and draughtsmen that has ever been held.

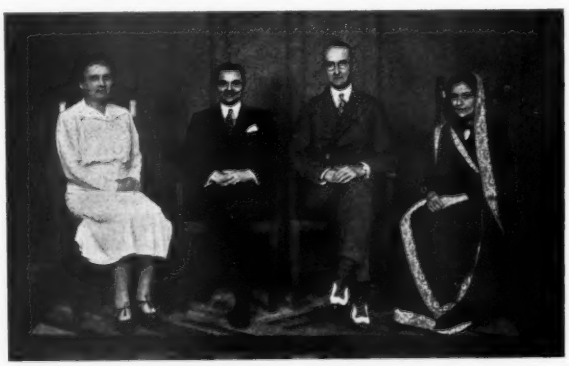
Detailed arrangements are not yet complete but we can dare to promise that the R.I.B.A. Exhibition of this superb collection will be worthy not only of Cotman but will be worthy as a memorial, of the kind he would like best, to Sydney Kitson. In organising the exhibition we will have the help of Mr. H. M. Hake, Director of the National Portrait Gallery, Mr. Kitson's executor for his art collection, and of Mr. Paul Oppé, whose knowledge as scholar and collector of the work of the English water-colourists is probably unrivalled.

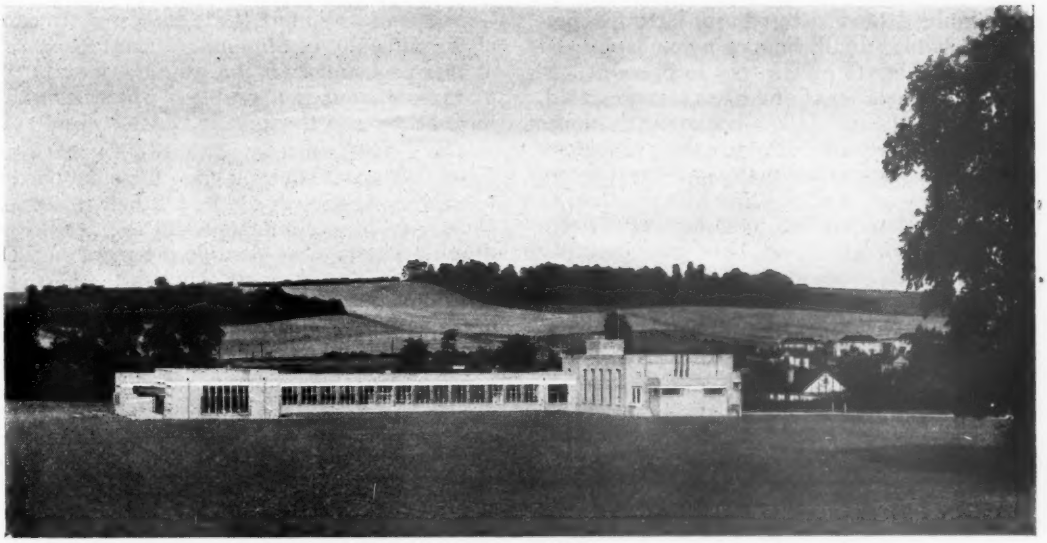
National Register of Architects

There are even now a few members who have not sent in their cards for the National Register of Architects. Those who have not done so are asked to send them soon. Extra copies of the cards can be obtained from the R.I.B.A.

Sir Banister Fletcher's Indian Visit

The picture at the foot of this page shows Sir Banister and Lady Fletcher with Mr. P. P. Kapadia, President of the Indian Institute of Architects, and Mrs. Kapadia on the occasion of a dinner given to Sir Banister Fletcher by the Indian Institute of Architects in Bombay during his and Lady Fletcher's recent Indian tour. Mr. P. P. Kapadia has sent us a number of photographs and reports from Bombay, Delhi and Calcutta of the magnificent response which this, the first visit to India of an R.I.B.A. Past President, drew from the architects in India. Mr. Kapadia [*F.*] in Bombay, Messrs. Thompson and Matthews [*FF.*] in Calcutta and Mr. Blomfield [*F.*] in Delhi were among those who organised and contributed to the remarkable round of entertainment which greeted Sir Banister and Lady Fletcher wherever they went. It is delightful for architects in England to think how close the ties are between the most distant of the R.I.B.A.'s allied societies and the parent body. In his speech at the Bombay dinner, Mr. Kapadia voiced his own Institute's consciousness of this in saying, "I am sure you will all agree with me that in this work of ours we are at all times enormously assisted by our affiliation to the Royal Institute of British Architects, which can be described without any exaggeration as the leading architectural body in the world." It is good for us in London to hear how keenly our colleagues in India respect the influence and strength of the parent body, but it is no less salutary for us to be reminded, as we are by Sir Banister's fruitful visit, that the Institute's strength and influence are themselves fed by the strength and influence of its allied societies, who can contribute as much to our prestige as ever we can give them.





Village College, Linton, Cambridgeshire, by S. E. Urwin [A.]

RECENT ARCHITECTURE IN THE PROVINCES

By WILLIAM T. BENSLYN [F.]

READ BEFORE THE ROYAL INSTITUTE OF BRITISH ARCHITECTS ON MONDAY, 6 MARCH, MR. H. S. GOODHART-RENDEL [F.], PRESIDENT, IN THE CHAIR

INTRODUCTION

To review recent architecture in the provinces in the space of one short paper is a most difficult task.

I have defined the word recent as being applicable to the period since the war.

Architecture in the mass is not only dependent on the architect, but on the general level of public intelligence and taste. There is an increasing realisation that buildings must fulfil their social and hygienic requirements with the minimum of concessions to convention. Modern constructional methods give opportunity for flexibility of planning and elevational treatment impossible in the past.

The influence of tradition is being modified not only by the logic of the direct expression of the needs of buildings unknown in previous periods, but also by the fashions prevalent at the moment.

Architects who have had the advantage of being trained in the schools since the war are more and more showing by their work the value of the training received. The habit of foreign travel acquired by many during the war has persisted. Visits to European countries are so easy and so attractive, that first one country and then another has influenced our taste.

More recently outside stylistic influence is less noticeable and the possibilities inherent in the problem itself are more often allowed to dominate the form of its solution.

Although a great number of our buildings still conform to the classical tradition, there is undoubtedly an increasingly realistic outlook on architectural matters among all classes of the community, and this is mirrored in many of the buildings recently erected in the provinces.

The examples I have selected are, I trust, representative of what is actually happening, my approach to this subject being to review, not to preach.

The work of all classes of architects is represented.

I am sorry that I cannot show you many examples of monumental architecture in the provinces. Although immediately after the war a great many war memorials were erected, few of these possess the right to be described as monumental. There are some good village crosses, but no cenotaphs comparable to the original one in Whitehall. There is at Leicester, however, a war memorial by Sir Edwin Lutyens which can, I feel, justly be described as monumental.

CIVIC BUILDINGS

My next examples are of civic buildings. Whatever criticisms may be levelled against the competition system, we must at least admit that competitions have been the means of discovering architectural ability which otherwise might not have been given an opportunity for expression.

Mr. Vincent Harris has never wavered in his adherence to the English classical tradition, and his knowledge of it, combined with an uncanny gift for economical and practical planning, has resulted in his being the architect for important buildings in many parts of the provinces. His work at Sheffield illustrates, I think, his willingness to accept for the artistic expression of buildings which by their nature must possess a considerable degree of symmetry and conventional dignity, those Renaissance forms which are part of the English classical tradition. There is little attempt to vary conventional ornament or detail, but there is an expression of the dignity appropriate to civic life.

The building at Leeds is not so monumental, but again shows his knowledge and use of the English Renaissance tradition.

The New Reference Library and Town Hall at Manchester, won in competition, serve to emphasise the difficulty of dealing with extensions in the centre of a developed city and furthermore, that unless the problem is primarily viewed from the standpoint of town planning, an entirely satisfactory result is impossible. The problem here of providing a new library and at the same time extending the municipal offices which had been built by the late Alfred Waterhouse was solved by dividing the problem into two parts and treating the library as a circular building in the classical manner, and carrying out the extension of the Town Hall to harmonise as far as possible with the earlier Victorian Gothic work. No one, I am sure, is more conscious of the difficulty of obtaining a satisfactory solution of this problem than the author, or more willing to agree that it is a problem which should never have been set in the form in which it was.

The Civic Centre at Swansea, by Messrs. Ivor Jones & Percy Thomas, allows the component parts to express themselves simply by their masses. Cornices have been eliminated and the detail is of the simplest kind. Considerable grandeur of scale has been attained with great simplicity.

The new Peace Memorial Building at Cardiff, by Mr. Percy Thomas, shows the successful use of a portico, modern in treatment, but classic in its proportion and with a notable simplification of detail.

The competition for the new Civic Halls at Wolverhampton presented a problem not unlike the one at Sheffield. It was won by Messrs. Lyons and Israel, both young men, who had gained a great deal of their experience by working on competitive designs. The original competition design showed a more conventional use of the orders than the executed building. In its treatment of detail this building is frankly original with varying degrees of success. The exterior view of the main façade illustrates my point about detail and how extremely difficult it is to give a new plastic expression to accepted classical forms. In the interior, conventional traditional forms have been eliminated and colour skilfully used. Its greatest merit is that the scientific knowledge available for solving the acoustic problems of a large hall has been so frankly utilised. Electric and other fittings are frankly modern, but somewhat over-emphasised. The building, however, is a very courageous effort to avoid banality.

The recently completed City Hall at Norwich, won in competition by Messrs. C. H. James and S. Rowland Pierce, is one of our finest examples of civic architecture. The site is a magnificent one and the treatment of the main façade overlooking the Market Place with its finely detailed stone base, which owing to the slope of the ground from south to north comprises one storey at one end and two at the other, is particularly successful. The expression of the portico in relation to the broad flight of steps leading up to the main entrance flanked by the two bronze lions by Mr. Alfred Hardiman reaches a high level of artistic distinction. The building has to be seen to be fully appreciated, as the impression created is much finer than that to be obtained from the photographs. The colour

of the Ketton stone harmonises admirably with the brickwork. The simple treatment of the window openings, all of which are rectangular in shape, should be noted. My only criticisms are that the omission of any responds to the columns of the portico appears unhappy from an angle view, and that the railings of the first floor terrace are somewhat meagre in treatment. In spite of its modern feeling it is essentially classical, and it is interesting to note that Mr. Pierce and Mr. Hardiman were both Rome scholars in residence together at the British School at Rome about 1921.

The Royal Hospital School, Holbrook, Suffolk, is another notable modern building obtained by competition. This school was housed at Greenwich until its removal to its present building in April, 1933. The present accommodation is for 860 boys. The site is a magnificent one, 800 acres in extent, with a southward inclination to the River Stour. The road from Ipswich to Sutton runs across the northern end. The bird's-eye view gives a good idea of the scope of the scheme, which owing to its relative isolation from a town had to be self-contained, and provides in addition to the service buildings required housing accommodation for staff of all classes. The architectural expression is traditional and possesses a sufficient element of the monumental to render it appropriate to its national importance. The architects, Messrs. Buckland & Haywood, employed a number of sculptors; the pediment of the entrance portico was the work of Mr. Wm. Bloye. I think it will be agreed that the fact that no extreme break was made from tradition in rehousing this organisation on its new site is well justified by the result.

I would like to call attention to the side entrance to the administration building, which has a quality not unworthy of one of the smaller masterpieces of the Italian Renaissance.

LEAMINGTON

The Art Gallery at Leamington Spa is a very charming small building designed by Mr. A. C. Bunch, in the traditional manner, very restrained in its simple classical dignity. Emphasis is given to the function of the building by the introduction of a sculptured figure symbolical of painting.

H.M. OFFICE OF WORKS

I believe I am right in saying that the oldest organisation doing architectural work in this country is H.M. Office of Works. The high quality of the work being done by this office is, I think, generally admitted. Examples of the work of the Department can be found in every part of the country, and are usually expressive of the cultural tradition of the district in which they are erected. Naturally, the work of such a Department, serving as it does so many administrative sections of the Government, has built up a vast fund of experience and knowledge of their requirements. The buildings fulfil their purpose efficiently. They are well constructed, often with very considerable taste, and they have a definite air of governmental stability. It would be wrong to expect them to be ostentatious, experimental or dramatic. A large number of them carry on the eighteenth-century English tradition. Although in these buildings use is not sacrificed to the expression of the personality of the designer, they do express personality, but not in an abnormal manner.

Owing to the shortness of time I am sorry that I cannot show more examples, but those I do show are representative of the whole.

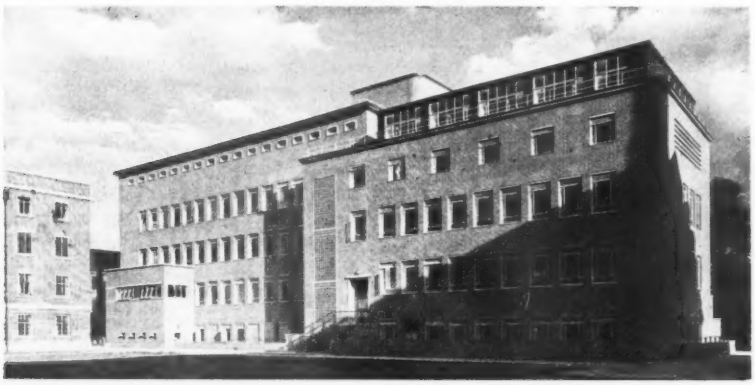
The R.A.F. College at Cranwell is a large undertaking perpetuating the tradition set by such buildings as Greenwich Hospital. It is the personal work of Sir James West.

The Post Office at Bath by Mr. A. Bulloch harmonises admirably with its surroundings. It is traditional and thus has to bear comparison with very high standards, but it emerges successfully from the ordeal.

The Central Telephone Exchange at Newcastle-upon-Tyne by Mr. H. T. Rees shows the treatment of the façade of one of these buildings in a large city.

The smaller works, such as the Post Offices recently erected in the smaller country towns, always harmonise with the locality in which they are erected. The example I have chosen to emphasise how well this is done is the Post Office at Glossop,

Art Gallery at Leamington Spa, by A. C. Bunch [F.]



School of Anatomy, Cambridge University, by Stanley Hall & Easton and Robertson [*FF.*]

which has been erected in local stone. It is the work of Mr. A. R. Myers.

I should like to have shown more examples of work inspired by tradition, especially some of the banks by Messrs. Palmer & Holden; for example, the one at Coventry. Also a number of the very fine smaller banks on traditional lines by Messrs. Peacock & Bewlay, as well as the Coroner's Court at Birmingham, which recently received the R.I.B.A. medal.

Another well-detailed building I was unfortunately unable to visit is the Jockey Club at Newmarket, by Messrs. Richardson & Gill, which has, however, been illustrated in *Country Life*.

CAMBRIDGE

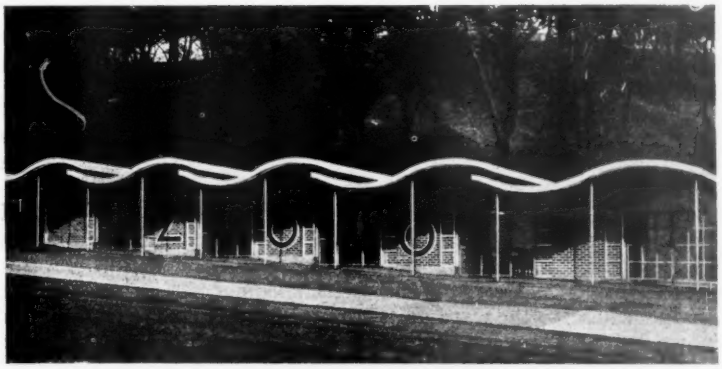
A number of important new buildings have been erected at Cambridge since the War, the most important of which is the New University Library, which has been designed to group with the new Clare Buildings. This building is not unduly stylistic in treatment and relies for its major effect on its masses and their relation to the great central tower. Internally the building is extremely pleasing, there is a warmth of colour and general suavity of feeling throughout which suggests the thought that here at any rate efficiency is the servant and not the master of culture. The fittings throughout are well designed, many incorporating special ideas of the staff. The clients are extremely pleased with it, and what more can any architect ask. The great reading room is a long rectangular room, very spacious in its effect, admirably lighted by clerestory windows along both sides with bookcases below; only a visit can really suffice to gain an impression of the great charm of this room. The corridors have unbroken wall surfaces except where doors and windows occur and are very well lighted and pleasant in their effects; the rubber floor coverings eliminate noise must successfully.

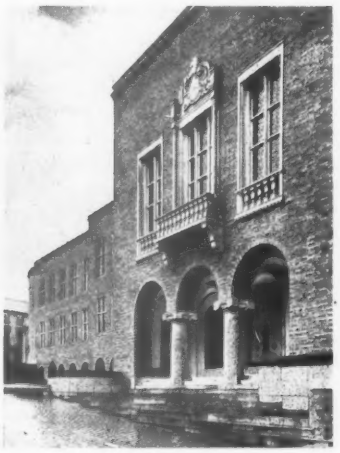
Both the University Library and the Clare Buildings are the work of the same architect, Sir Giles Scott.

Messrs. Stanley Hall & Easton and Robertsons' work at Cambridge is very successful and includes new buildings for Caius College, the Zoology buildings and the School of Anatomy, of which I have some illustrations. This building is very interesting in its grouping and fenestration; although its designers have confined themselves to rectangular shapes, they have used them with such variety that the façades are full of vivacity. The varying functions of the different parts are thus well expressed elevationally without detracting from the simple mass grouping of the whole. The third floor was originally intended to be restricted to that portion faced in brick, and the added portion has not been faced in brick to preserve as far as possible the original conception of the mass.

DUDLEY

No other town in the Black Country possesses the individuality of Dudley; with its castle dominating the town it attracted the attention of Turner, who made a number of drawings in the district. In recent years two exceptionally interesting pieces of architecture have been added to its attractions. The New Town Hall by Messrs. Harvey & Wicks and the Dudley Zoo buildings by Messrs. Tecton both show considerable individuality. The New Town Hall was won in competition and has been carried out in two sections,





Above : Entrance turnstiles, Dudley Zoo, by Tecton

Right : Dudley Town Hall, by Harvey & Wicks [*F./A.*]

firstly, the Town Hall and Courts, and secondly, the Council Suite and Offices. I know of no other building of its class in this country which has given more successful expression to the possibilities of craftsmanship applied to building. It is by no means common to find architects who can at the same time conceive a building satisfying the practical requirements of a competition in logical architectural form and also give in its execution enthusiastic attention to the selection of and co-operation with craftsmen able to execute detail of such artistic individuality without throwing the whole out of balance.

The Arts and Crafts movement had this end as its ideal, but how seldom has it been attained and how little chance does there appear of its happening often in the future, much as we admire it. May it not, like the Town Hall at Stockholm, mark the end of an epoch? Personally I hope not.

The Dudley Castle Zoo by Messrs. Tecton has aroused great interest, especially among the younger members of the profession. The castle grounds, which are of considerable extent, provide good settings for these modern buildings; the colour of the reinforced concrete construction harmonises admirably with the local limestone and shale. The buildings show considerable imagination in their siting and planning, and this, combined with the modern character of the constructive methods used, gives a freshness and charm to the whole which is greatly enhanced by the beauty of the existing trees which in many instances form integral parts of the design. The balconies, terraces and staircase overlooking the bear pit provide a variety of observation points. The buildings and walls appear to grow out of and merge naturally into the pit they enclose and are notable for their plasticity of shape.

The bird house is an isolated circular building surrounded externally with an observation terrace.

The Restaurant is a simple single storey building with a flat roof in which full advantage has been taken of the method of columnar construction employed to fully glaze large portions of the enclosing surfaces. The entrance to it is emphasised by a parabolic shape formed in concrete. Altogether a stimulating and to me exciting group of buildings. I am sorry I cannot show it more fully, especially the Penguin pool and Seal pond.

BARBER INSTITUTE OF FINE ARTS, BIRMINGHAM UNIVERSITY

The Barber Institute of Fine Arts, Birmingham University, has been erected from the funds of the bequest made by Lady Barber. The building provides a Concert Hall for musical performances which has been placed in the centre and is surrounded on the upper floor by the Exhibition Rooms of the Art Gallery, giving a simple circulation. The main entrance is well emphasised and has a flight of steps leading to a wide corridor, from which the concert hall is approached, and at the far end of which is a

fine staircase leading to the Art Gallery. The Professor's rooms, office accommodation and cloakrooms are also on this floor, as well as a small lecture theatre. Store Rooms, Music Practice Rooms, etc., are placed in the lower storey. This arrangement is well expressed in the elevations, which have no definite stylistic inspiration but harmonise in colour with the adjacent University buildings. The stone base is beautifully detailed and although the mouldings show considerable originality they exhibit that refinement which is the result of study allied to the experience gained from previously executed work.

The architect is Mr. Robert Atkinson, whose reputation as a collector is well known. It is interesting that the Director, Dr. Thomas Bodkin, late of Dublin, has secured from that City the magnificent equestrian statue of George I, for which Mr. Atkinson has designed a new pedestal, standing on which it serves as a secondary focus to the layout of the irregularly shaped open space in front of the building which, with its stone paths, low walls, flower beds and grass, provides an admirable setting.

The interior view shows the Tapestry Gallery.

HOSPITALS

The Birmingham Hospital Centre was won in competition by Messrs. Lanchester & Lodge, and has recently been opened, and is situated on a site adjoining the University at Edgbaston.

Some years ago the members of the Medical Faculty of the University became convinced of the necessity for the erection on the same site of a hospital, medical school and nurses' home, and after a great deal of investigation and preliminary study, initiated the competition for which the late Mr. Percy Adams was the assessor. There was no precedent in this country for a building of this class, but each aspect of the varied practical requirements has been meticulously studied. But for the enthusiasm of the Dean of the Faculty, Dr. Stanley Barnes, and other members of his profession, the business ability of Sir Harry Vincent, and the wholehearted devotion they have given to this cause, the architects would not have had this great opportunity for the exercise of their skill, or the technical co-operation necessary to carry it out so successfully. In arranging the general layout of the buildings, the architects have worked on a main axis line running almost due north and south, the buildings forming three main groups on this axis. At the top and highest part of the land is the nurses' home; next below this are all the main hospital buildings, consisting of the administration block, wards and operating theatres, special department, out-patients, paying patients, chapel, kitchens, etc.; and at the lower end is the medical school, arranged in such a way as not to form an obstruction to the high ward blocks behind it. I can only speak of the general architectural expression of this great group of buildings, its orderly massing, its clever utilisation of levels, simplicity and emphasis of outline, with the tower focusing and unifying the whole group. The sun and bed balconies facing south express the ward units admirably. There are few embellishments, but over the main entrance to the medical school there is a finely carved figure of Æsculapius.

In contrast to this great undertaking, I would like to mention the Extensions of the Wolverhampton and Midland Counties Eye Infirmary recently carried out by Messrs. Lavender & Twentyman, as it is typical of problems many provincial architects are called upon to solve; firstly, it was an extension; secondly, it was complex, having to provide a new out-patients department, enlarge the administrative department, provide new ward accommodation, and generally to reorganise the old building. To solve it wards had to be placed over the out-patients departments; the necessity to keep to the floor levels of the old buildings gave a height of almost 20 ft. between ground and first floor, and made it possible to mezzanine a

Extensions of the Wolverhampton and Midland Counties Eye Infirmary, by Lavender and Twentyman [*F./A.*]

portion to provide flats for the porter and house surgeon. I mention these points as they have bearing on the elevational solution. The main entrance to the waiting hall will eventually face a triangular open space at the junction of the roads, and become an important elevation. The offices adjoining the main waiting hall are only 10 ft. high, and the waiting hall is lighted from a clerestory above their roof. The building is simple in outline, the windows expressive of the purpose of the rooms served. Internally, clean unbroken surfaces and simple fittings emphasise the character of the building. In all a very pleasing modern building, and an eminently practical solution of the problem.

HOUSING

The great responsibilities imposed on local authorities by housing and slum clearance legislation have been met largely by the development of new housing estates on the outskirts of large cities, and only in a minor degree by the erection of flats in central areas. Whether we agree that flats are the most desirable solution or not, we must, I feel, be prepared to grant that their erection does provide a solution free from some of the faults inherent in the twelve houses to the acre method of dealing with the problem. That they possess corresponding disadvantages must be admitted. Leeds and many other cities are now employing both solutions. The Quarry Hill flats scheme carried out by Mr. R. A. H. Livett is most boldly conceived not only in its planning, but in the structural methods employed for its execution. The developed area is 26 acres, of which the buildings occupy 14 per cent., roads and special access roads 27 per cent., playgrounds and open spaces 59 per cent., and provides 938 dwellings varying in size from two-room to six-room flats, the bulk, however, being three- and four-room flats, sculleries and bathrooms not being counted as rooms in this classification. The whole is planned as a self-contained community. The flats are planned in a series of units each having direct staircase access, with only two flats accessible from one staircase landing. Units of four floors and over are provided with small automatic electric passenger lifts serving all floors. The situation at the top of the Headrow makes it readily accessible to the centre of the city, which is only half a mile away. All the amenities are provided, shops, communal laundry, central refuse disposal station, community hall, pram and other stores are all included. Living rooms and balconies face sunward. The Mopin system of construction has been employed. The elevations are very pleasing, the use of a lighter coloured spar to face the concrete walling blocks used for the continuous unbroken wall surfaces above and below the window openings, and of a darker coloured spar for the blocks filling the spaces between windows, emphasises the long horizontal lines which serve to give distinction and unity to the elevations. In my mind there is no doubt that it is one of the most outstanding contributions to our recent architecture, possessing considerable beauty, especially in the play of light on the curved surfaces. The impression given of clean, straightforward efficiency and suitability to purpose is quite remarkable.

I regret that I have not time to show examples of the Liverpool flats, which have, however, already been the subject of a lecture here.

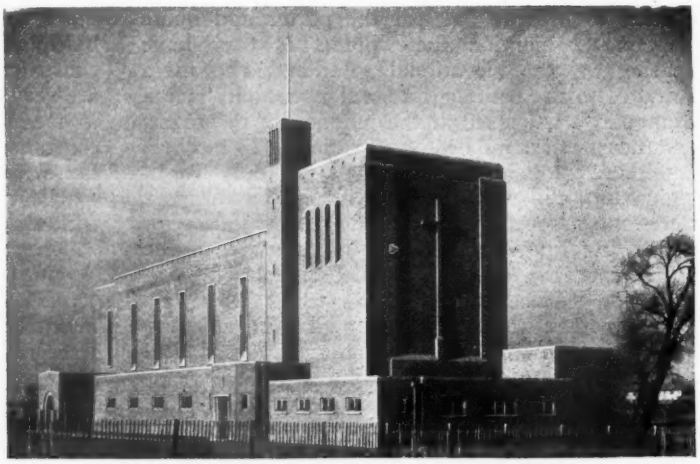
CHURCHES

The majority of the churches recently erected in the provinces serve the needs of new housing estates ; they are usually of brick and the necessity for economy has had great bearing on their design. The most successful have sacrificed elaboration of detail in preference to cramping their size.

Stylistic influence is less obvious than it was formerly. The Church of St. Gabriel at Blackburn by Mr. Verlade is one of the most impressive I have seen, both externally and internally. Its square tower is devoid of projections or mouldings, and attains its impression of virility by its simplicity of outline, the carefully restricted size of its door, and studied proportion of its window and tower light openings. The bricks used are of a brownish orange colour. The barrel-vaulted nave crowns arcaded aisles, the supporting piers of which, although pierced by small arched openings, serve as adequate internal buttresses. This church possesses those qualities of power, grandeur and simplicity which we feel in the masterpieces of the past.

Another very fine modern church is that at Oldbury by Mr. Geo. Drysdale, which is dedicated to " Our Lady and St. Hubert." This also has a very fine tower visible in all directions for many miles, as it stands at the highest point on the new arterial road from Birmingham to Wolverhampton. Although in its main lines basilican in type, it possesses considerable individuality and is extremely well detailed. The barrel vaulted chancel with its

Interior of Church at Oldbury, by George Drysdale [*F.*]



Church at Walsall, by Lavender & Twentyman [*F./A.*]

apsidal end is particularly impressive. Attention is focused on the altar, and the whole is admirably related to the more simply treated open timber-roofed nave. The sculptured emblems are the work of Mr. Alan Bridgwater.

The church recently built at Walsall by Messrs. Lavender & Twentyman, is notable for the way in which it makes use of the proportions of traditional work whilst avoiding traditional detail. Its success is, I feel, primarily due to its good scale. The clerestory windows although simple rectangular openings have great distinction of shape and contrast admirably with the windows of the aisles. The whole of the exterior is most subtly modelled. The massing up of the squat tower over the chancel with the louvred outlets for the amplified sound of the tubular bells should be noted.

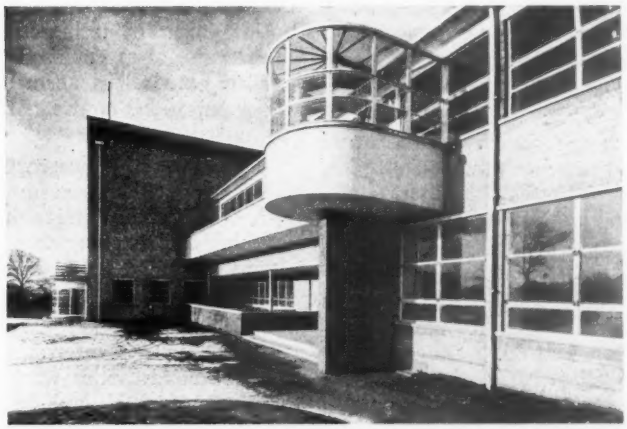
I would also like to call attention to the west end, which has a gallery for the organ which is of the unit type, its two chambers being placed one on either side of the window. The baptistery which is under the gallery has an interesting font. The roof of concrete beam and slab construction is coloured blue, which harmonises well with the putty coloured rough plaster surfaces of the walls.

The Cemetery Chapel at Solihull by Messrs. Harvey & Wicks is a very simple building, so well proportioned and in such good taste, that it is entitled to a very high place among modern church buildings.

SCHOOLS

Recent school buildings express in their design the more comprehensive view now taken of the functions of education. The necessity for physical and craft education in addition to book learning is now part of our national educational policy, and in order to comply fully with the Board of Education's requirements, senior school buildings need an increase of approximately 45 per cent. on the floor area of similar buildings erected in 1914, so that quite apart from the fact that new schools have to be erected to serve new housing movements in all parts of the provinces, they have to provide more accommodation per head. Sites have to be bigger not only for the school itself, but to provide larger playgrounds and playing fields. The problem is therefore one in which economy of design and construction can never be disregarded. The Board of Education in their pamphlets provide inspiring guidance in addition to definite information, and far from discouraging experiment, welcome it. Good light and ventilation are of primary importance. Steel or concrete frame construction is being increasingly employed to facilitate the provision of large uninterrupted window surfaces for the lighting of classrooms.

Withal there is no necessity for mechanical dullness in modern schools, they provide great opportunities for interesting grouping and massing arising naturally from the differing functions and



[By courtesy of "Architectural Design and Construction"

Boys' Secondary School at Luton, by Marshall & Tweedy [FF.]

sizes of the component parts. The use of flat roofs is becoming increasingly prevalent, which in the case of single-storey buildings are often of timber construction.

The Boys' Secondary School at Luton was won in competition by Messrs. Marshall & Tweedy. It was one of the first school designs to provide a successful alternative to the quadrangular plan. The contours of the site made it possible to give a long classroom wing facing south-east and two storeys in height, the ample corridor below being reduced in width where the science rooms occur at first floor level. The teaching rooms are thus isolated from the more noisy activities of the hall and gymnasium. There is a main entrance leading directly to the hall for public use and those who have business with the headmaster. Cloakroom and office accommodation is provided at both ends of the classroom block and a boys' principal entrance is so arranged that there is a short cut to the gymnasium and its changing rooms, which are placed at the rear of the hall and easily accessible to the playing fields—altogether a very fine plan arising from a close study of and provision for the requirements of this type of school. The architectural treatment is simple and direct, but also imaginative. The bricks used for the main wall surfaces are butter coloured with some dark purple dressings and plinths.

Whilst in Luton I saw the new municipal buildings by Messrs. Bradshaw, Gas & Hope, which is in the classic manner with a fine tower. I am sorry I have no slide of this.

The Harcourt Elementary School, Folkestone, by Mr. E. Wamsley Lewis is just being completed ; a Senior Girls' School is in this instance combined with a Junior and Infants' School, the hall and gymnasium block separating the two. The classrooms all face south-east. A frame construction of ferro-concrete has been employed supporting hollow tile floors. Outer walls are of the cavity type in brick 11 ins. thick, butter yellow sand lime bricks being used for facings. Sliding metal windows have been used for all teaching rooms, they are painted turquoise blue. The senior school classroom block is two storeys in height and a circular art room has been planned at roof level at the junction between this block and the assembly hall. The views from the south-east and north-west show the important part this room plays in the composition of the whole.

The school at Paganel Road, Birmingham, for juniors and infants was built on a sloping site. I designed it as a simple flat-roofed light steel framed structure with 11 in. hollow brick outer walls and wood windows, with open verandahs on the south for access to classrooms. The view of the court between the Infants School and a classroom wing of the Junior School serves to illustrate the possibilities of this type of construction and the interest in composition arising from rooms of varying heights, the tower houses the water tank at a height necessary to main-

tain a good head of hot water in the higher levels of the school. Only the most inexpensive methods of construction were permissible.

These recent schools are only the precursor of many interesting designs which we may expect to see in different parts of the country as soon as there is an increase in the number of schools built in accordance with requirements of the Board of Education's pamphlet 107.

The Village Colleges by Mr. Urwin at Bottisham and Linton show how pleasing such buildings can be. These colleges make provision in the same group of buildings for all stages of elementary education and also for evening institute and adult educational activities. The Village College at Impington by Professor Gropius and Mr. Maxwell Fry was not completed when I visited it in December. It possesses many points of interest, but I am not convinced that the fan-shaped assembly hall has any advantages over the more normal rectangular shape. It did, however, involve the use of some very expensive specially shaped built-up steel girders to support its roof. I must confess that interesting as I found the whole job, I came away with the impression that undue insistence on the theory of simplicity can very easily produce practical complications.

ENTERTAINMENT

New entertainment buildings have been erected during recent years in all parts of the provinces. It is scarcely possible to mention any which have not a new cinema. These are usually of steel frame construction with brick walls. Their main façades appear to be more and more merely backgrounds for the display of neon lighting, and this fact has been frankly recognised in many recent designs. I think the view of the cinema at Sutton Coldfield by Mr. H. Weedon may be regarded as representative of this class of design. The conditions laid down by their owners demand that such buildings shall have publicity value and incorporate the name of the circuit to which they belong. They must also be constructed of materials not too costly in maintenance. In my opinion, the buildings erected by Mr. Weedon, of which this design is typical, fulfil the conditions imposed with skill and show considerable imagination. Their colour is usually pleasant and they are not defaced by posters.

The De la Warr pavilion at Bexhill by Messrs. Mendelsohn & Chermayeff makes little concession to the commercial outlook, but is a notable contribution to the architecture of the seaside. Its cantilevers, glass enclosed staircases, flat roofs and terraces, are all in accord with the modern spirit of design, and it contrasts in no uncertain way with the rest of Bexhill.

The Stratford Theatre by Miss Elizabeth Scott and Messrs. Shepherd & Chesterton is the only other building for entertainment which has attracted anything approaching the same public interest and attention.

CIVIC DECORATIONS

One of the most interesting things about the recent Coronation festivities was the public demand that the decorations should be properly designed. In Birmingham the civic authorities commissioned Mr. Wm. Haywood to design the decorations for the city's public buildings and principal streets, the property owners collaborating by making contributions through the Chamber of Commerce based on the rateable value of their property. These decorations are also available for other occasions of civic rejoicing and at the Birmingham Centenary celebrations Mr. Haywood again took charge. The figure representative of the Spirit of Birmingham by Mr. Bloye attracted considerable attention, also the column erected in Victoria Square. I mention this as an illustration of the varied contributions our profession can make to the national life.

The only office building of which I have a slide is The Legal & General Assurance Society's new office block at Birmingham, by Mr. S. N. Cooke, which shows considerable originality in the modelling of the façade, which, whilst preserving an appearance of strength, provides ample window openings.

Boots' factory at Nottingham is an outstanding example of functional architecture. It was designed by Sir Owen Williams, the well-known engineer.

DOMESTIC WORK

The design of domestic buildings is one of the most pleasant, but at the same time one of the most onerous, of an architect's duties. The following points should be borne in mind in judging the examples I have selected from recent work in the provinces. The client, or at least his wife, has often very definite ideas on the subject, and it is not in my opinion the function of the architect to override these, but interpret them with technical

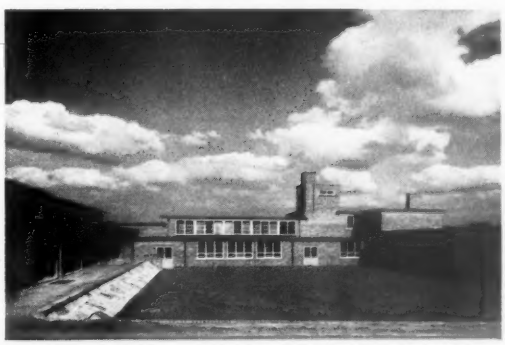
skill. The results evidence great variety of outlook. In many parts of the country the only methods of building readily available are the craft building methods which the local workmen understand and which the architect often enables them to employ with great success. This is particularly the case in districts remote from large towns. But modern constructional methods with the possibilities they give are becoming increasingly popular as those trained in their use and clients wishing to use them increase in number. Many recent examples of modernity are well known to you through the technical press. I am therefore restricting myself to showing you a very charming interior of a house at Henfield by Messrs. Connell, Ward & Lucas, with its simple fireplace, bookcases, settee, carefully placed reading lamp, and vase, which I feel has great distinction. Also exterior and interior views of a house at Hatfield by Mr. F. R. S. Yorke, which, with its high living room partly clerestorey lighted, flat roofs, sun blinds, and simple cubical outline is typical of a small house in the modern manner.

This brick-built house at Edgbaston by Mr. H. W. Hobbiss has its garden at the rear with its living rooms overlooking it. The simple rectangular shape with its hipped roof of Roman tiles and well placed chimneys combined well with the breadth of the entrance façade which is not absolutely symmetrical, but the windows are so arranged that they preserve a pleasant sense of balance.

The house at East Farndon, Northants, by Mr. Geo. Nott, stands on the high ground behind Market Harborough. It is built of brick and roughcasted. The design enables full advantage to be taken of fine views, not only from the flat roof and loggia, but from the main staircase landing, the top portion of the staircase walls being treated as a continuous window. This house is one of the most successful I have seen ; ordinary building methods have been employed with modernity of outlook.

The house at Greenhill, Ulverscroft, Leicestershire, also by Mr. Nott, is situated in Charnwood Forest, and is built of local stone with a Swithland slate roof.

The house at Waltham, near Melton Mowbray, is of local stone with pantile roof. It was designed as part of a complete hunting establishment. The principal rooms face south, the entrance being in the north, and the archway leads past to the kitchen yard, to the stables, and the cottages at the rear.



School at Paganel Road, Birmingham, Infants' Department, by W. T. Benslyn [*F.*]

VOTE OF THANKS AND DISCUSSION

Mr. JAMES R. ADAMSON [*F.*], Vice-President R.I.B.A., Chairman of the Allied Societies' Conference : Much as I should prefer the role of listener to that of speaker, I do with very real pleasure abandon the modest obscurity which usually envelops this end of the Presidential bench to rise to propose a vote of thanks to Mr. Benslyn, a vote of thanks which is so well merited. At the outset I should confess that when I undertook this duty I looked up the subject on which Mr. Benslyn was to speak to see whether the title of his paper was " Recent Provincial Architecture " or " Recent Architecture in the Provinces." The need to clear up that point at the very start brought to my mind in a flash how far and how quickly we are travelling from the day when we had a real provincial architecture in place of merely an architecture in the provinces.

It is held, I know, by many that one of the inevitable results of the march of progress is the disappearance of provincialism ; in other words, the disappearance of those rich and salty variations of self-expression in speech, in dress, in manners, and, of course, in building and architecture, which, in the case of buildings, make the expression of one building in one town or one county differ from that in another. If that be so—and it may well be so—will it all be gain ?

There are, of course, many factors which contribute to this state of affairs, amongst others, the factor that much provincial architecture is not carried out by provincial architects. If what I have just said be the case, however, there will be in things architectural, as most of us must be perfectly well aware, an ironing-out, as it were, of regional variations and usages—call them eccentricities in some cases, if you will—in favour of a more commonly accepted and universal form of expression. " Ship me somewhere east of Suez, where the best is like the worst," sang Kipling, and already many of us begin to think that somewhere a good deal west of Suez would serve. When we have substituted everywhere for local materials, local craft, local lore and local workmanship a slick and machine-made cosmopolitanism, shall we have enriched our national tradition and civilisation or shall we merely have standardised it ; and in so doing, by our forgetfulness of much of the craft-lore of our fathers and of local building wisdom, shall we not be likely, incidentally, to have supplied many more problems for Dr. Stradling and his merry men at the Research Station ?

We all know, of course, that architecture cannot stand still any more than any other form of human expression. Heaven forbid that it should ! We all recognise that the expression of the complicated synthesis which a modern building of any size must involve, a synthesis of clients' needs and clients' wishes—they are not always the same thing—of cost, of engineering and of sanitary services, of local byelaws, of planning, of proportion and of scale and good taste, cannot be entirely the same as was the expression of the simpler needs and requirements of a less sophisticated age.

It may be profitable to consider, however, whether it is strictly necessary to throw away with our provincialism also our regional architectural quality, and so in passing I should like to-night to make a plea, as against the extreme uniformity which tends to be a feature of so much modern work, in favour of a return in part, at least, to the more individual expression of things which provided so rich a regional background and so rich a variety of expression, and which has been in the past so greatly the spice of our architectural heritage.

I do this while appreciating to the full the excellent, stimulating and most interesting and comprehensive survey which Mr. Benslyn has given to us of architecture since the War. I think his examples have been excellent. They have been well chosen and they have been varied and full of interest. They have been well-balanced, some being traditional and some modern. While I do not pretend that these remarks of mine have followed his text, I do feel that they have relevance in a very real way to the problem which lies behind the title of his paper to-night. I have the greatest pleasure in moving that a very hearty vote of thanks be given to Mr. Benslyn for his paper.

Mr. HAROLD A. DOD [*F.*], President of the Liverpool Architectural Society : I have much pleasure in seconding the vote of thanks to Mr. Benslyn. I do not quite know why I have been asked to do so, except, possibly, because I happen to come from the provinces. It has been a fine thing, I think, to have passed in review before us to-night a display of provincial architecture. Every sensitive architect to-day must be on the look-out for some common characteristic in all this work, which will point to the foundation of a national style. If I may so express it without irreverence, one looks for that star in the east, or possibly in the north or the west, which is to herald the new day of our national architecture. That is the great thing for which we must all look.

It is difficult to see in the pictures which we have been shown to-night this common weft, but there is one thing which struck me and that is that there is throughout it all a tremendous application to the practical side to the solution of practical problems. A great number of the elevations which we were shown were plain to absolute starkness, but I think that that is the splendid thing about them. In the work which is being done to-day we are laying the foundations of

something which may be, in the future, a great Renaissance of architecture in this country, starting, I hope, in the provinces.

Mr. NORVAL R. PAXTON [*A.*] : I have thoroughly enjoyed what Mr. Benslyn has had to say, but I happen to be sitting here among a great number of brother Scots, and they have pointed out to me that in this excellent survey Mr. Benslyn has shown a very great economy in his travels ; in other words, he does not appear to have crossed the Tweed, and therefore we have had no examples of what has been done in Scotland. I happen to come from Leeds myself, and so I was extremely interested to see the photographs of the Quarry Hill flats, but I must say that those photographs gave no proper impression of them ; they are very fine buildings and it is a very good scheme. At the same time it would have been interesting to have seen something from across the Border.

Mr. WESLEY DOUGILL [*A.*] : I have great pleasure in supporting the vote of thanks to Mr. Benslyn, who has given us a concise account of what is happening in the provinces. The lecturer could not hope to deal with every region, let alone every town. I happen to come from Liverpool. Mr. Paxton tells us that he has seen no building from Scotland. I have seen no building from Liverpool, the leading architectural centre of the country ! As I have just said, however, we could not expect Mr. Benslyn to cover the entire country. What he has been actually dealing with is the architecture of England, excluding London, a stupendous task.

There is one point which I should like to make and which is rather in support of what Mr. Adamson has said and rather against the remarks of Mr. Dod. Mr. Dod is a colleague of mine from Liverpool, but I am inclined to cross swords with him this evening. He suggests the desirability of a national style of architecture. That may be all right but I must confess that I am on the side of Mr. Adamson, in so far as his remarks concerned those towns and cities in this country which have achieved, through many centuries of history, a particular individuality, a personality if you like, or what I believe Lord Crawford has called a soul, of their own. That has been largely evolved through local topography, local circumstances, local materials and so on. I feel very much with Mr. Adamson that it would be a profound pity if those cities and towns, which are so attractive and varied, were reduced to a common denominator and were made all alike.

I cannot help feeling that we should, in achieving some form of modernity, be losing something much more valuable to the country as a whole. This, of course, has nothing to do with those many towns, and even regions, whose only appropriate fate is complete rebuilding.

I want to mention a further point because Mr. Benslyn has been modest enough not to say that the domestic architecture of Birmingham is much ahead of domestic work in any other part of the country, as I believe personally it is. Certain regions, and possibly certain towns, have for some reason or other developed a certain class of buildings to a very much more advanced stage than has been the case in other parts of the country. The domestic work around Birmingham is extraordinarily pleasing from every point of view—its appropriate use of material, its refinement, its resourcefulness and its variety—and I am sorry that Mr. Benslyn has not shown us a number of slides to illustrate it.

Finally, I should like to ask why it is that provincial architects have almost invariably got such infernally bad sites to develop. I suppose that it never happens in London that you are given difficult and complex sites on which to build, but that is, almost without exception, the case in provincial towns. I think that the reason may be the one to which Mr. Benslyn alluded when he referred to the Manchester Town Hall, where extraordinarily difficult conditions had been imposed on the architect largely because the authorities had not taken the long view and planned the whole centre of the city. We have still to learn that both a suitably shaped site and an appropriate environment are essential ingredients in the success of any public building.

Mr. T. A. DARCY BRADDELL [*F.*] : Mr. Benslyn has stirred up one of the worst hornet's nests ever stirred up in this room. We have already had Mr. Paxton explaining that while he actually came from Leeds he was really speaking for Scotland. Mr. Benslyn did not talk about Scotland, of course, because Scotland is a country and not a province. I am not a Scot myself, but no one admires the qualities of Scotland more than I do. It has a great historic capital and a great history of its own and a people of its own, and it would be quite ridiculous for Mr. Benslyn to muddle up the architecture of Scotland with the mere architecture of the provinces of England.

Then we have Mr. Dougill complaining that Mr. Benslyn has not talked about Liverpool. Well, why should he talk about Liverpool ? He has not talked about Bristol and many other places. I remember that when I was a child there used to be a music hall song " Oh, Mr. Porter, whatever shall I do, I want to go to Birmingham but they've sent me on to Crewe." We have been to Birmingham to-night, and as far as the provinces are concerned, it seems to me that Birmingham is an admirable example of provincial architecture.

I should like to associate myself with what Mr. Adamson has said, and to say how sad I think it is that the true provincial architecture is now dying in front of our eyes, and that in its place is coming a sort of bastard internationalism, which you may or may not like. Personally, I do not like it.

Mr. W. H. HOWARD COOKE [*A.*] : We have heard a great deal about Birmingham, Scotland and other places, but what about Dublin ? Why should not Dublin be represented ? If you do not believe me, then come to Dublin for the Conference this year.

Mr. G. HASTWELL GRAYSON [*F.*] : I am afraid that I am more of a " has-been " than anyone else who has spoken to-night, and to my mind one of the most interesting points which we should bear in mind as a result of this paper is that whereas fifty years ago the elevation took charge of the plan, the great change which has taken place in the last fifty years has been that the plan now takes charge of the elevation. We have been shown many cases of that this evening, cases where unless you understood the plan you would have great difficulty in understanding the elevation. In my view, that has been emphasised now a little too fully. The boot was on the other leg fifty years ago, but the change has gone too far to the other extreme, and I hope by and by we shall come back again to a more middle position, nearer to the position when I was a young man.

Mr. R. B. CRAZE [*F.*] : I think that the periods of English architecture have shown that somehow or other we seem to take the tradition of other countries and after a while we work it through our own essentially English idiom. I think that where Mr. Benslyn's talk to-night has been so helpful is that it is pointing the way to something which we shall in time adopt, and which will eventually become particularly English architecture. We always do lag behind, but I think that we do so with the idea that having seen what others can do for the fruition of their ideas, we can pick up the strands and weave what is really an excellent traditional work. Mr. Benslyn's talk must be regarded in that light to be fully appreciated.

Professor THOMAS BODKIN, Barber Professor of Fine Arts, University of Birmingham : I am spoiling a very pleasant evening for myself and I am afraid for you by venturing to speak ; I had no intention of speaking when I came here. As a professor, I like being lectured to and I dislike lecturing. I should like to say first of all, as a Dublin man, that I should have been deeply grieved if the architecture of my native country had been described under the term " provincial."

There are two things which occur to me particularly with regard to the brilliant paper which we have heard this evening. First of all, in looking at the admirable slides I felt that we laymen were not in a position to judge them properly very often when no standard of scale was provided. When the Barber Institute was shown, few of those who saw the illustration would realise that the doorway is over 30 ft. in height. That is because the statue which was shown, and which I was fortunate enough to secure from Dublin, is about four times life size. The tree in the foreground, which had the appearance of a sapling, is almost a forest tree. When slides of buildings are shown I think that it is always desirable. if possible, to show figures in proximity to the buildings, Once in Ireland I caught a very sizable fish which I was most anxious to have photographed, but before I could find a person of seemly proportions and very small size to photograph it with, the fish had almost perished.

Another point which occurs to me as a layman is that I was very glad to hear the constant reference by Mr. Benslyn to the colour of buildings—the turquoise window-frames, the butter-coloured bricks, and so on. Speaking as an ignorant layman, I think that one of the faults of our modern architecture is the little regard paid to colour. Great architecture in the past was coloured, and coloured vividly. The great Egyptian buildings were coloured, and although the Parthenon is now gleaming white marble, it was painted from top to bottom by its original designers. When we look at the great shells of the Gothic cathedrals throughout Europe, we forget that when the masons had finished their work those cathedrals were painted from top to bottom with ochre, and every statue was painted in different colours, with the diadem gilded, and so on, while the roof was very often gilded. We are a little too inclined, particularly in these drab modern times, to rely on the natural colours of stone without any gaiety in our buildings.

Those are the only two points which, as a very humble layman, I should like to emphasise. I have been deeply entertained and much instructed, as I expected to be, by this paper, and I beg to add my thanks to the author for the enlightenment and instruction which he has given us.

Mr. S. E. BRAGG [*A.*] : I am simply a student of architecture at the moment, but on looking at the slides which we have seen to-night I feel that there is not the architecture in the provinces that we want to have ; there is some good architecture in the provinces, but generally it is not anything like up to the standard which we have seen this evening. I myself look forward to the day when it will all be up to the standard of what we have been shown. I feel that Mr. Benslyn might have made some reference to what is called the standard of the architecture of the provinces.

Mr. T. E. MACLENNAN [*F.*] : I have been waiting for some of my Scottish colleagues to say a word, and I am afraid that I have not anything to say beyond a word of thanks. Mr. Benslyn has been criticised for his omissions, but if he had dealt with all the subjects with which people have wished him to deal, we should not have left here until half-past eleven at the earliest.

The Scotsman is essentially a practical man. I would never be accepted myself as a teacher of architecture, and I never have been, but I have said to students on occasion " Try to judge the most modern ideas that you get in architecture, whether from abroad or anywhere else, from the practical standpoint." The first slide which we were shown of a building of a modern type indicated that the building had no cornice, and one of the later buildings shown on the screen had no cornice either. There is a modern building, not a hundred miles from my office, connected with a hospital and some seven or eight storeys high, with several horizontal lines near the top. I could not see any of them, but I knew they were there because they could be seen by looking at the corner of the building. There was a series of recessed planes. I find that to-day most modern architects put a cornice on their buildings. Why ? To protect the top of the wall. These recessed planes let all the water in. Twenty feet of the building to which I refer was black with water at the time that I saw it, due to the incessant rain. That is a practical point ; it is necessary to keep the water off the walls, especially in a high building.

Scotland, however, is not forgetting tradition, and some of us who had a little brief authority some years ago were instrumental in preventing the erection of a building by a well-known authority, for whom I have a great admiration and whose work has been referred to to-night. This particular building was to be right in the centre of the traditional part of Edinburgh, where it would have been out of place, and we managed to get it altered to suit our ideas. A little co-operation in that way does help occasionally.

I should like, in conclusion, to thank Mr. Benslyn for his very delightful paper.

Mr. W. T. BENSLYN [*F.*], in reply, said : I should like to thank those who have spoken, not only for their kind words but also for their criticism. I can assure you that I could quite easily have been far more provocative than I have been, but I could also have made what I consider would have been the great mistake of confusing countries with provinces. Having served in the Irish Division and knowing something of Irish susceptibility, I deliberately avoided that mistake. I shall be delighted to attend the Architectural Con-

ference which is to be held in Dublin and I am already saving up for the purpose. The date of the Conference usually clashes with the dinner of the Nineteenth Corps, which is unfortunate, but I hope that this year that may not occur.

I should like to have shown many more slides, but I made it a rule to endeavour wherever possible to speak only of buildings which I had personally examined and investigated. I tried to go to Liverpool but was prevented from doing so by a patch of bad weather. No one is more sorry than I am that I was not able to go there, but it is not necessary to go to Liverpool when wherever one goes one finds buildings designed by Liverpool men. Nor is it necessary to go to Scotland, having regard to the fact that England is merely a province of Scotland. Joking apart, however, the reason I have given is the reason why I have shown you more buildings in the Midlands than I should otherwise have done. I should like to thank you once again for the way in which you have listened to my paper and for your comments.

THE ARCHITECTS REGISTRATION ACTS, 1931 and 1938

Members of the R.I.B.A. and of the Allied Societies who have not yet registered under the Architects Registration Acts are strongly advised to make application for registration without delay.

The Architects Registration Act 1938 provides that no person, after 1 August 1940, may practise or carry on business under any name, style or title containing the word "architect" unless he is a person registered under the Architects (Registration) Act 1931. After 1 August 1940 no person will be eligible for admission to the Register of Architects unless he has passed one of the examinations recognised as a qualification for registration.

The Architects' Registration Council are prepared to consider applications for registration under Section 2, sub-section 1, of the Architects Registration Act 1938. The sub-section reads as follows :—

> "Notwithstanding anything in the principal Act, a person shall, on application made to the Council in the prescribed manner after the passing of this Act and before the first day of August nineteen hundred and forty, and on payment of the prescribed fee, be entitled to be registered under the principal Act, if he proves, to the satisfaction of the Council, or, on an appeal under this Section, to the satisfaction of the tribunal hearing the appeal, that at the date of the passing of this Act he was, or had been, practising as an architect in the United Kingdom or in some other part of His Majesty's Dominions."

In accordance with Section 5 (3) of the Architects (Registration) Act 1931 all applications for registration have first to be considered by the Admission Committee, who will report thereon to the Council.

An applicant for registration should write to the Registrar, the Architects' Registration Council of the United Kingdom, 68 Portland Place, London, W.1 :—

(1) Enclosing a postal order for 1s. for a copy of the Council's regulations ; and

(2) Stating under which one or more of the following qualifications he intends to apply, in order that the appropriate form or forms of application may be sent to him, viz., whether—

(A) he is an architect member of the Royal Academy or the Royal Scottish Academy ;

or (B) on 29 July 1938 was, or had been, practising as an architect in the United Kingdom ;

or (C) on 29 July 1938 was, or had been, practising as an architect in some part of His Majesty's Dominions other than the United Kingdom.

The phrase "His Majesty's Dominions" includes all the Dominions (including Ireland), India, Southern Rhodesia and the Colonies, but does not include protected States, protectorates or territories administered under a League of Nations mandate by the Government of the United Kingdom or of a Dominion.

or (D) on 1 August 1938 was an architectural assistant and at that date had been engaged in the study of architecture and execution of architectural work in the United Kingdom for at least seven years ;

or (E) has passed an examination in architecture which is for the time being recognised by the Council.

THEATRE ACOUSTICS: SOME RESULTS AND WARNINGS

By H. BAGENAL [A.]

Acoustic conditions in modern theatres need some attention. They are criticised both justly and unjustly. A style change has produced some unlooked-for effects, and at the same time the limitations inherent in acoustical treatments have become apparent. Also, more data are now available: the contributions made by engineers occupied in recording, amplifying and radiating sound, though not all unanimous, are now taking the kind of shape which enables them to be generalised roughly and used by designers. Lastly, I have myself had opportunities of studying critically the actual performance of a number of new theatre buildings in recent years.

Results.—The modern theatre has made one notable advance. Roughly speaking, in cheap rear seats hearing is better than in the pre-war type of theatre. And not only in rear gallery seats which have always the benefit of stage floor reflecting upwards, but also in rear pit seats under the overhang of dress circle. It must be said that while, in the pre-war theatre, stalls heard well, and rear seats less well, the position in large theatres is now reversed. Complaints now tend to come from stalls and particularly from side stalls. But a commercial theatre can stand many complaints from cheap seats without "getting a bad name," whereas if consistent complaints come from expensive seats then matters may become serious.*

Both the good results and the bad are due to the same cause, namely, to the powerful reflecting of sound by hard, smooth, unbroken surfaces. Surfaces of this character, if set on the splay, certainly direct sound outward into the amphitheatre, but also receive it again on its return and tend to concentrate it on to fore-stage and stalls. Now in theory there ought not to be any return of sound owing to the upholstered and carpeted galleries and also absorbing treatments located on rear wall. But in practice it is found that some sound is, in fact, returned and that it is very difficult to get absorbing surfaces to do their job as efficiently as the hard reflecting surfaces do their's. There is also the contribution of the fan-shape or megaphone plan and section, which gives to walls and ceiling this two-way reflecting tendency, and gives also the relatively large rear wall area. Moreover, the return sound is left unimpeded by the smooth continuous tunnel-like interiors now in vogue. An accompanying effect is that noises of coughs and rustlings also find their way down to stalls in a noticeable way. But a special contributing danger lies in the curve on plan frequently given to rear wall, gallery risers, gallery fronts and intermediate balustrades. It is natural to strike curves on plan for the lines of seats and enclose them with boundaries to the same radius. But rear walls, plus risers, plus balcony fronts, can amount to a large area, and even if it be 70 per cent. absorbing (which, in fact, it seldom is) *must still return some 30 per cent. of sound;* and if curved

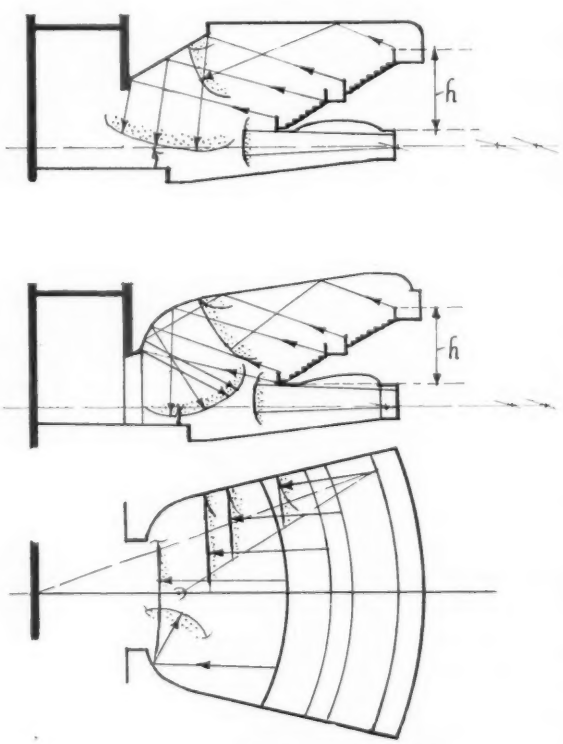


Fig. 1. Return of sound to stalls

* It is sometimes sweepingly said that in certain old theatres in London hearing is uniformly good. I visit them and love them and recognise their good theatre character, but the hearing deep under the galleries is still not *good*. In the pantomime (a good test) one often misses a joke. But the point is one does not write to the management about it.

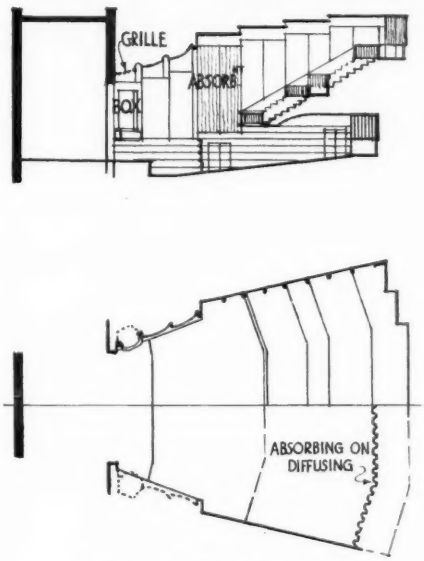


Fig. 2. Theatre design modified

it will bunch and focus that 30 per cent. until it is a virtual 50 per cent. travelling back on to proscenium splays and so down to front seats.*

The process is illustrated in *Fig. 1* for two types of modern section. It is really a multi-impact echo. Note that the balustrades can provide a large area : *h* represents the total rise of gallery surfaces. It is true galleries are carpeted ; but not always as to risers : it is true that risers are screened by upholstered seats, but gallery seats are not always occupied and their undersides, turned up, are hard. The fact remains in practice that quite a perceptible echo (medium high to high in pitch) can find its way back from a carpeted and upholstered-seated gallery when curved on plan and flanked by smooth hard side walls. One reason for this is that high tones can easily be reflected by stretched fabrics, especially when decorated, although easily absorbed by thin pleated or folded fabrics.

Rear Walls on Plan.—The first and vital remedy therefore is not to curve on plan the lines of gallery seats, and in this respect note not only the gallery front but also the intermediate balustrades. Instead, make all polygonal on plan with three long facets ; and make rear wall straight, or stepped, or polygonal. (*See plan in Fig. 2.*)

Again the rear wall behind pit, coming often at the same level as actors' heads, is specially important, and if curved on plan can provide a powerful contribution of its own. These considerations apply equally to cinema theatres where the outward sound-beam from a loudspeaker is louder and more direct than from the human voice. (*See below.*)

Fore-stage and Reverberation.—Also there is often local reverberation in the front of the house, distinguishable from the return echo. This is due partly to the modern fore-stage. The fore-stage is a valuable revival from the Renaissance theatre : it increases theatrical scope and acoustically it enlarges the floor reflector, with a corresponding increase in loudness upwards. But inter-reflection often occurs between fore-stage and proscenium ceiling above. It must be recognised that serious inter-reflection can occur, from wave fringes, off splayed walls both on plan and section. Wave fringes are the parts of the sound beam which bend round on either side, out of the beam direction. This was first noticed in the horizontal plane in cinema theatres by electro-acoustic engineers, who attributed to it various " standing wave " and " flutter echo " effects from loudspeakers.

" *Diffusion.*"—In the legitimate theatre of pre-war times the stage boxes, with curtains, heavy mouldings, trophies and cupids, tended to act as efficient diffusing surfaces. To-day one must find some suitable design equivalent. Already in cinema theatres there is a noticeable tendency to ribs, grilles, reeding, and the breaking up of proscenium surfaces. This is for purposes of diffusing and is due to the demands of electro-acoustic engineers. But it is highly desirable in all large theatres. The depth of relief, however, in order to get good diffusing, must be sufficient, not less than 6 ins. for sounds of average speaking voice pitch and 9 ins. to 12 ins. at least if low musical tones are to be diffused. In large commercial theatres proscenium reverberation may be serious. It needs guarding against in the sketch stage. To reduce risk do not use large-radius *concave* proscenium curves on plan or section : instead, use the convex or a series of facets. The lighting engineer often asks for concaves in order to get his troughs and his gradations of light. A compromise between sound and light at an early stage in the design is highly desirable. For instance, it is possible to combine large-radius convexes with small concave terminations for lighting. A grille immediately above the fore-stage is also useful against proscenium reverberation. Also, the restoration of at least one proscenium box a side is desirable in theatre design for

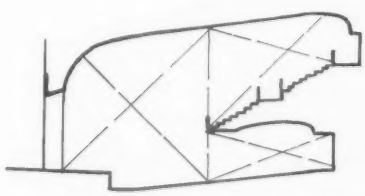


Fig. 3. Relatively large cube per seat in stalls shown by comparing sectional areas in front of house and in galleries

* This applies to all large auditorium buildings.

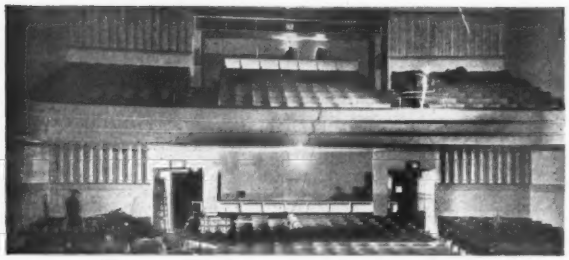


Fig. 4. Fluted " wood rock " diffusing board

pantomime and vaudeville purposes as well as for acoustic reasons. Measures of this kind against local reverberation are also useful against the return of sound from rear wall previously discussed. The above points are illustrated in *Fig 2.* Large-radius convex curves are used for proscenium splays and, in addition, the inmost of the three has stage boxes and a ceiling grille. The plinth is designed in horizontal convexes and the rear wall under the gallery in vertical convexes. In respect of diffusion the firms developing the material known as " wood rock " have put on the market a large fluted absorbent board very useful indeed on rear walls (*Fig. 4*) and which can be used also with a plaster surface as a diffuser only, in the front of the house. There exists also a large perforated tile which can be placed at an angle on plan to form a series of diffusing facets.

Variety Theatres, when of large dimensions, run greater risk from proscenium reverberation because of the speed and loudness of the performers. Comedians, pierrots, ventriloquists, often rattle out their words at eight or ten syllables a second and often they are very loud indeed. It may therefore be found necessary to use large areas of absorbent on the proscenium surfaces themselves. In designing the New Hippodrome at Coventry—a modern theatre used largely for variety and pantomime, to seat approximately 2,000, it was specially necessary to ensure the proper hearing of rapid patter and loud spontaneous jokes and also to get the instantaneous response so necessary for success in stalls as well as among the gods. In the early stages of the design the acoustic, the lighting, and the decorating specialists, met and laid their points before the architect, who sought to reconcile them. By careful adjustment it was found possible to apply large absorbent areas between the light troughs and by this means proscenium reverberation was, in fact, cut very short indeed for so large a theatre and jokes were heard over the whole house as well front as rear. In this theatre also front side walls had absorbent panels for the following reasons. In any large theatre, if the cube per seat in the front of the house be compared to the cube per seat in galleries or pit, it will be seen that the former is much larger than the latter. This is illustrated by a comparison of sectional areas in *Fig. 3.* And cube per seat is a rough measure of reverberation. Therefore a large absorbent panel on front side walls, between dress circle front and proscenium, is most valuable and is recommended for all large theatres. This front side absorbent is illustrated in *Fig. 2.*

It follows that the reverberation of a large theatre calculated by the Sabine or any other formula must be an average only. If a figure of 1.3 seconds with two-thirds audience is given by calculations, then that average means in practice 1.2 seconds under the overhang of galleries and, perhaps, as much as 1.5 seconds in stalls and proscenium. In this respect the old heavy fabric stage pelmet and side curtain were useful as absorbents and ought not to be replaced by a wood or plaster pelmet.

Problem of Wall Absorbents.—Absorption in theatres still necessitates carpets everywhere and they are desirable on risers for reasons given above. Upholstered seats also remain a necessity. But the problem of wall absorbents in theatres is bound up with decoration. When the smart rapid decorator gets to work and puts his plastic paints and art textures on walls and ceilings, then sound absorbents are cased over and the money spent on them thrown away. Some of these paints are advertised as sound absorbing but cannot be so in themselves. But there are on the market absorbents which can be coloured carefully so as not to block up perforations or interstices, or which can be stippled and then pricked. But they will not look exactly like the contiguous plaster, especially when highly lit. Good design ought to recognise the fact and distinguish instead of attempting to conceal. A modern designer ought to distinguish reflectors, absorbents and resonators.

Relative Absorption.—An important practical point is that absorbents which absorb only the high tones, or only the low tones, will not give good results. Porous plasters and thin curtains tend to absorb high tones only ; and if these are the only absorbents used, then articulation suffers. In English speech the plural termination " s " is a very high-pitched sound. Also it is the upper partials which give quality to stringed instruments. The secret of good theatre acoustics is to get not only the right amount of reverberation but also the right relation between treble, middle and bass. The reverberation curve plotted over the musical scale showing this relationship is called the " reverberation characteristic " of the room. Recent research at the laboratories of the B.B.C. has thrown light on relative absorption. Broadcasting studios are, of course, designed to suit first the microphone, but throughout the B.B.C. experiments ear tests are studied and also the reaction of the performer himself to the room in which he performs. This gives a wider reference generally valuable to designers.* It is not claimed that tests

* McLaren, J. " Acoustical Design of Broadcasting Studios." *World Radio*, 6 May, 15 July, 4 November, 25 November 1938 ; 6 January, 20 January 1939.

are final but the direction of results seems to be roughly that a good general-purpose " characteristic " for a room, to give naturalness, can be had by a roughly level reverberation from about 125 cycles to about 4,000 cycles : that is, roughly, from the octave below middle C on the piano to about four octaves above middle C ; with, below that, a slight rise towards the bass ; and above, a slight fall towards the tones higher in pitch up to about 8,000 cycles. This is illustrated in *Fig. 5*. The slight rise to the bass, below the 125 cycles limit, gives some strength in the lower regions of pitch less audible to the human ear. If this rise should be too great and should give a noticeable slope to the curve then there is danger of " boom." If there should be no rise, or if there should be a bass fall, then music sounds " thin and lacking in body."* The slight fall in the very high tones is largely inevitable and due also to the considerable absorption by the air of sounds in that region of pitch.

Not less important is the B.B.C. discovery (for it amounts to such) that in ordinary rooms bass absorption in practice is caused preponderantly by the " resonance response " of lining materials such as thin partitions ; plaster on lath, wood floors, wood panelling. This resonance absorption is sometimes spoken of as " damping " and has always been known theoretically. The B.B.C. are now deliberately analysing it and using it in combination with other absorbents in acoustic design. But it has this danger, namely, that " damping " is part of the phenomenon of resonance and a lining material may " damp " the sound energy at one region of pitch but may reinforce it at another. Therefore the natural decay period at a particular pitch of a large resonant lining may greatly influence the reverberation conditions of the room. Briefly, it is found that large continuous areas of plaster on metal lath may damp lightly, that is, respond easily, at a particular low pitch and cause " boom " at that pitch : and risk is reduced therefore if such areas are made in separate smaller panels. Also, if wood stud and lath partitioning is used, then the damping is more uniform over a wider region of pitch and more generally serviceable for bass absorption. Also, wood panelling $\frac{3}{4}$ in. thick on studs at 24-in. centres is generally serviceable and tends to give good musical tone ; this is only to be expected from the wide use of wood in musical instruments. A panel thickness of less than $\frac{3}{4}$ in. will need studs at 18-in. or 16-in. centres : it is a question of relative stiffness. Also, there is now on the market a dovetail fibre lath which gives good low absorption. From all this it follows that the large modern linings, extending over walls, coves and ceilings, incur a certain risk of boom and are therefore better broken up. For this reason the surface treatments in Fig. 2, as to walls and ceiling, are shown in large panels.

Selective Absorbents, then, can be roughly classified as follows : use wood in preference, or else plaster on wood or on fibre lath for bass absorption ; use for high tones some thin curtains or a limited area of porous plaster ; and for the long middle stretch use in preference one of the felt materials 1 in. thick ; or one of the mattress materials such as screened mineral wool 1 $\frac{1}{2}$ ins. thick, or sprayed asbestos fibre undistempered to a thickness of at least 1 in. It should be noted that the felts absorb by a slight resonant action in addition to their substance absorption and can therefore be thinner than the mattress materials. The upholstered seats and thick carpets on felt undermat also contribute in this middle band. It is interesting to note that, very roughly, this combination of materials is found in the old theatres and opera houses with their wood, their stuc linings well broken up and their upholstered and curtained boxes.

Cinema Theatres.—In designing a cinema theatre an architect ought to collaborate early with the firm supplying the sound equipment. The leading firms have experience of buildings ; they study building acoustics ; and their object is good natural reproduction. Loudspeakers are louder and more directional than the human voice and it is found that the worst enemy is echo from rear surfaces and specially from rear wall at back of pit. Therefore, all that is said above about avoiding large-radius curves on plan applies with greater force to cinema theatres. Next in importance comes the problem of high-frequency absorption. The high tones are needed for articulation and quality : a reverberation characteristic without any fall above 4,000 cycles is desirable (*see dotted line in Fig. 5*). But high tones tend in the cinema to be relatively too much absorbed by many types of absorbents. And at the same time they tend to be too active in the neighbourhood of untreated side walls where what is known as " ordered reflection " or " standing waves " are liable to be set up. These high-frequency standing waves tend to occur in the horizontal plane and specially when rear side walls are parallel and not diverging.

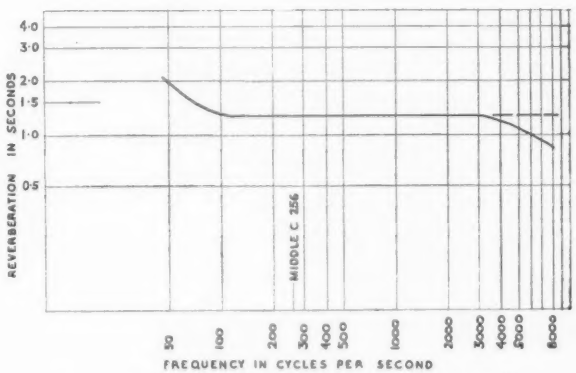


Fig. 5. Rough " characteristic " for general purpose studios

* McLaren, J. Loc. cit.

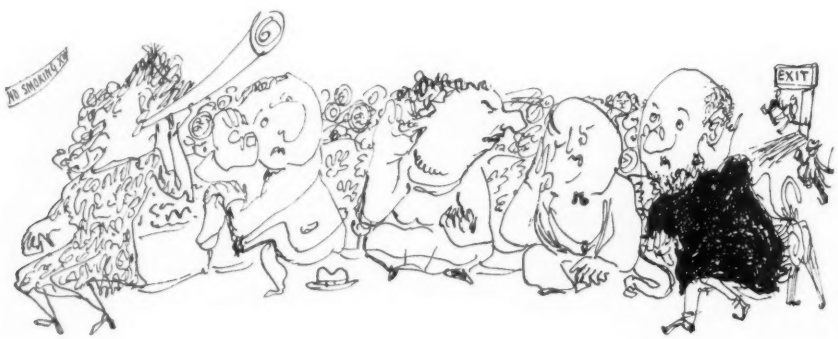
For these reasons many cinema engineers would extend diffusion to rear side walls as well as to proscenium walls. They recommend that these be hard but corrugated. A desirable treatment would consist of a series of semi-cylinders placed either vertical or horizontal and 12 ins. in radius. If this is not possible a radius of 6 ins. would be well worth while, and this is given by the corrugated wood-rock board mentioned above (*Fig. 4*). For the same reason they recommend placing the rear wall absorbents on a corrugated surface. If, for instance, a felt 1 in. thick be placed on a corrugated base and given a muslin screening, the middle tones will be efficiently absorbed, but high tones will be partly absorbed and partly diffused. This gives the kind of relative absorption required. Also, diffusion at the lower or dado level is most desirable and this can be done by horizontal convexes as shown in the section in *Fig. 2*. Also, total reverberation in cinemas needs to be very short owing to the greater loudness of reproduced speech and because some reverberation is often included in the recording. But relative reverberation as between the well of the theatre in front and the gallery areas behind is just as marked as in the general theatre or variety theatre discussed above. Therefore, the need for proscenium absorption and also front side wall absorption are of equal importance and are now much more widely recognised and provided for.

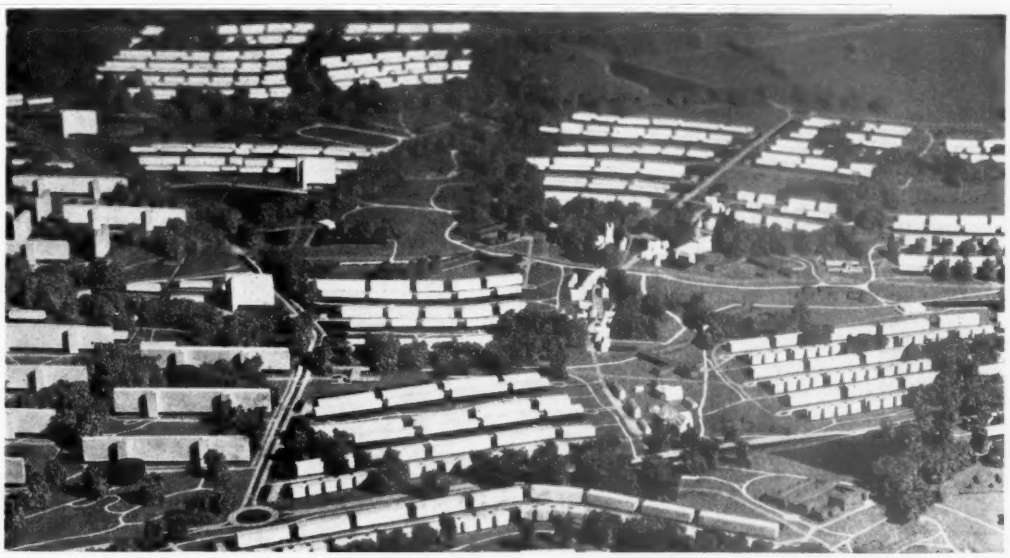
Hall Theatres.—There remains the case of the small hall theatre. Many of these are now being built by municipalities as part of a Civic Halls scheme ; they are proving successful and in many instances are let every night to local dramatic societies. They have to serve also for lectures, dances, concerts and private film shows. Therefore, they have a flat floor and light movable partly upholstered seats. The dancing floor requires a removable drugget to take seats and this should be fairly thick. But a drugget is not the equivalent in absorption to a carpet on underfelt. Also there is no gallery—though acoustically a gallery is desirable. It follows that cube per seat is liable to be high and at the same time neither carpet nor upholstery quite as absorbing as in a large theatre. Therefore, large wall areas of absorbents are wanted on side walls and a highly efficient absorbent on rear wall behind audience above a 4-ft. dado height. Get entrance doors recessed at each end of rear wall, not in centre unless they can be heavily curtained. Reverberation ought to be quite short, at least 1.2 seconds by the Sabine formula (hall $\frac{2}{3}$ full) and for musical tone use wood proscenium reflectors.

A fore-stage is necessary and this ought to come well out in front of the proscenium reveals and have its own doors, and steps down, for pageant and ceremonial purposes. A fore-stage too small and entirely surrounded by a deep proscenium reveal, without doors on to it, and without steps down to floor, loses its use and purpose. Also, such an enclosed fore-stage is liable to have a local reverberation.

A vital acoustic point in the preliminary design of such Civic Hall theatres is to resist the demand to throw small (theatre) hall into the adjoining large (concert) hall by so-called "sound-proof" doors for the sake of large assemblies. (Assessors, please note !) The point is the two halls are required, in fact, to be let separately —they are each a separate source of revenue—and are let for rehearsals as well as for performances. Therefore, they must be really sound-proof and that means proper separation on the site, so that there can be loud knocking up of scenery, organ practice, rehearsal repetitions, all day, in one and silence in the other. If they adjoin directly it is exceedingly difficult and expensive and in certain cases impossible to secure this. A theatrical workshop is wanted for amateur requirements adjoining the small theatre stage.

After some personal study I am convinced that the proscenium opening requires to be a little larger in these hall theatres in order to give adequate scale—say, a minimum of 35 ft. × 18 ft. ; also stage depth behind proscenium ought to be at least 22 ft. and ought to connect with the stage workshop. These small theatres for the keen amateur deserve our best attention. Amateur drama all over the country is growing and this means the reassertion of personality—the voice. All the arts grew out of the theatre originally : they may grow out of it again.





A part of the model of a town on a site in Berkshire shown in the "Future Development" section of the Exhibition, designed by a group of young architects in connection with the School of Planning and Research for National Development. The photograph shows a residential area; the houses in the foreground are of two storeys; taller blocks of flats can be seen on the left. An existing village of some architectural merit has been preserved and can be seen in the centre

ROAD ARCHITECTURE—THE NEED FOR A PLAN

The Opening of the R.I.B.A. Spring Exhibition by Mr. Herbert Morrison, P.C., M.P.

The Rt. Hon. HERBERT S. MORRISON, P.C., M.P. : I must apologise in the first place that my own rush is causing the President and the officers of the Institute some little degree of inconvenience, but the truth is that there will be a debate in the House of Commons this afternoon in which I have to open for the Opposition and which ought to have taken place yesterday, but, owing to affairs in connection with Spain, it is going to take place to-day.

I am exceedingly glad and greatly honoured at being permitted to open this Exhibition this afternoon and I am very glad that there are with me Lord Howe, who has so much interest in transport matters, and the Chairman of the London County Council, Mr. Culpin, who is one of your professional colleagues.

This Exhibition is very valuable and useful in regard to the study of modern transport problems in relation to the architectural profession ; and, as one who has had quite a number of battles on issues of amenity as between the utilitarian engineer and the æsthetic architect, I have very great pleasure in opening the Exhibition, which I believe is going to be instrumental in bridging the gulf between the æsthetic architect and the utilitarian engineer. (Remember, however, that the adjectives can at times be transposed.) If that can be done it will save a great deal of trouble for future Ministers of Transport and for future leaders of the London County Council, because there is undoubtedly a state of some friction between utilitarian and æsthetic considerations and it is the business of the public administrator to try to bridge that gulf. It is also the business of the two professions of engineering and architecture to try to bridge that gulf which has led to some conflict, to some argument and to some friction, which in the public interest would be better avoided if possible.

A road is a means of transit from one point to another, and, if it is regarded merely in that narrow light, then any old road in any old circumstances will be good enough to do the job ; if the road will carry the traffic, nothing else matters. We have to remember, however, that the road is not only a means of moving things ; it is also a means of access to particular places and to particular buildings. If the nature of the buildings is out of accord with the nature of the district and the nature of the road you get a state of confusion, and therefore a reconciliation is desirable between the

professional man who is concerned with the building of the buildings and the professional man who is concerned with the building of the roads ; because if the buildings are all wrong they may be in conflict with the layout and the general line of the road, and if the road takes no account of the nature of the buildings which are built, or which are to be built, then you will have a conflict between the road and the buildings. As a consequence, the functions of the architect and the functions of the engineer, both in the building of the road and in the building of the buildings, need reconciliation, and co-operation is required between them.

Moreover, the road is part of a national system of highway communication and in this connection we need to take into consideration the national aspects of the building or the construction of any particular road, and in those national aspects of the planning of roads both the architect and the engineer are involved. It seems to me that the element of planning, whether in respect of buildings or in respect of roads, is a vital consideration, and to that I will return shortly ; but what I am exceedingly anxious should be brought about is that we should reconcile the occasional conflict which occurs between the engineer and the architect. In very big authorities and in very big industrial undertakings both the engineer and the architect are employed and it is the business of the people who employ both of them to see to it that they can reconcile their separate problems and that their projects can be welded together as a whole on a comprehensive plan. I sometimes wonder whether in the future, in view of the development of the architect's functions and in view of the points at which the engineer's functions bring him into contact with the work of the architectural profession, we shall not some day have to merge the two professions of architecture and engineering in order that the occasional conflicts which occur may possibly be avoided.

It is desirable to remember and to keep in mind that the architect under modern conditions is becoming something more than a mere planner and builder of buildings ; his work is becoming increasingly related to general urban and rural planning. In fact, the large scope of operations of the architect in increasingly big buildings, as it becomes more related to the functions of town planning, makes the architect much more than an artist and much more than a man who is planning and stipulating the particular construction of particular buildings ; it makes him an organiser and a planner of widespread operations of one kind and another which bring him into contact with professions and with considerations which are outside the strict limits of the architectural profession itself. We must give up the idea that the modern architect is purely the builder or the planner of luxury buildings : he has functions which are far beyond those considerations. The architect nowadays is expected to be not only a planner of buildings but a planner who must take into account administrative considerations and business considerations and whose general scope of operations is widening far beyond what was formerly assumed to fall within the functions of the architect as such. The architect, therefore, is concerned with public policy in relation to local government and with public policy in relation to national government. The architect is increasingly coming into contact with social, administrative and political problems which extend beyond the formerly understood narrow limits of the architectural profession.

In addition to these considerations, we have to reconcile progress with considerations of amenity. When I was Minister of Transport I was constantly meeting controversies, arguments and difficulties as to whether a given road improvement could be carried through without destroying some of those ancient amenities which exist in relation to particular highways. The life of a Minister of Transport was not and is not easy as between the motorist, represented by Lord Howe this afternoon, on the one hand, who is concerned with getting from point to point with the greatest reasonable and practicable speed—I utter those reservations for the benefit of his lordship in particular ! —and, on the other hand, without destroying the beauty and the amenities of the highway and the district through which he passes.

The fact has to be faced that the reconstruction, the widening and the development of the highways of the country have undoubtedly to take place and the real problem is how to reconcile that progressive need of road transport with the avoidance of the destruction of existing beauty and amenities, together with—and it is very important that the architect shall play his part here—the constructive creation of new beauties and new amenities.

There is sometimes a tendency to believe that only the old can be beautiful. There are many beautiful things which have been created in mediæval times and under mediæval conditions, and if they are really beautiful and fine it is the duty of the community, consistently with getting its living and with carrying on modern transport and business with reasonable efficiency, to try to preserve them. There is sometimes a tendency in some quarters, however, to assume that because a thing is mediæval or because it is ancient it is sacrilege to disturb it. All I am asking is that the merits of the case shall be considered on each occasion and that in every case you will balance against those survivals of earlier times, which are often so fine and so good, the other considerations which have to be borne in mind. You must rationally and in a spirit of balanced public administration consider the needs of the modern community and the need of the nation to get its living.

Please do not assume, however, that the only beauties in architecture and the only beauties in road layout

are necessarily associated with earlier years, perhaps of two or three centuries ago. I do not believe that the modern architect, given freedom and elbow room, is less capable of considerations of amenity and beauty than the architect of one, two or three centuries ago, and therefore it is vitally necessary not only that you should fight for the preservation of the beauty of earlier times but also that you should be constructive fighters for the beauty which can be created in the twentieth century by the modern skill and the modern art of the architect who is actually living, as well as fighters for the preservation of the achievements of the architects who are dead.

We want, therefore, to preserve the good things of mediæval times, but we also must be willing to eliminate the ugly things of mediæval times, things that are quaint but not beautiful. We must be ready, if it is necessary, even to sacrifice some of the attractive things of mediæval times if they really cannot be reconciled with the modern nation struggling for its standard of life and struggling to get its living under modern conditions. It is good to preserve the ancient when the ancient is beautiful and irreplaceable, as long as we place upon that desire rational limitations related to the actualities of modern life.

There is a need not only for local planning, such as the London County Council is doing under the Town Planning Acts, of regulating the redevelopment of London under the Town Planning Acts and under the London Building Acts, a process which is bound to be somewhat limited in its extent, because we are dealing not with a virgin area but with an area of long history which already exists, but also for national planning and national control over the general future of the nation. Sometimes it is urged that special executive authorities should be created on a regional or a national basis for this executive work. I am not too keen about that, because I think that if we create a large number of specially appointed regional and national bodies, we may obstruct and clutter up the machinery of government, whereas what we really want is greater elbow room and elasticity in the machinery of executive government and public administration.

There already exists at the Ministry of Health a national town-planning authority and what I should like the architects and others to do is to impress upon the Minister that it is really time that they functioned as a national town-planning authority. (Applause.) The Minister has complete powers of approval of town-planning schemes. If the London County Council submits to the Minister a town-planning scheme—I am not going to admit that we shall do this, but if we did do it—which is out of accord with the reasonable requirements of the future development of Greater London and of London and the Home Counties as a whole, then it is the duty of the Minister of Health to say to the London County Council : " You must think about this scheme again, because I do not think that it is going to fit in with the requirements of London and the Home Counties as a whole."

Beyond that, schemes may be submitted to the Minister by some small urban or rural district council and I think it is amazing that successive Ministers of Health should have preserved district councils as town-planning authorities at all. It does seem to me that town planning, where it is necessary to have regard to wide considerations, is really a function of the counties and the county boroughs, with the Minister at the top co-ordinating the schemes as between counties and county boroughs. However, we are a conservative race—I am not using that term politically at all ; between ourselves, even I am conservative in some respects in the literal sense of the term—and it is extraordinary that in the year 1939 very small local authorities, such as urban and rural district councils, should be preserved as supreme statutory town-planning authorities.

What is the explanation ? The explanation, I sometimes think, is that the Ministry of Health is a cowardly State Department, that it is more afraid of local authorities than it ought to be. It is I who say this, and heaven help them if they quarrel with my local authority ! But they are too nervous of local authorities. They know that the district councils ought to go as town-planning authorities, but they are afraid of them because they are afraid of a stand-up parliamentary battle in which they would win, but in which they would win only after a nasty, spiteful, unpleasant parliamentary fight. But what is more glorious in life than to be on the side of righteousness, to know that you are right and finally to win because you are right, after you have left the battlefield with all sorts of people left behind that you have reluctantly had to destroy ? You have done it in the public interest and because of the public good.

The truth is that, as I say, the Ministry of Health is far too nervous a State Department. I say that the Minister of Health ought to be the leader and the biggest noise in the town and country planning of the nation. It is time he took his courage in both hands and decided what were good principles in town and country planning and let it be understood by all the local authorities, even including mine, that they had to conform to that national plan if they were to receive sympathetic consideration from the Ministry of Health for purposes of approval.

With things as they are, however, the initiative and the whole original conception is with a host of small local authorities and the Minister at the end does his best to do a little messing about here and there. The Minister ought to have a mind of his own and to say : " You must conform broadly to the mind of this Department but within that limitation I will give you elbow room. We are planning a nation, however ;

we are not planning a rural or an urban district without regard to what is happening outside the area of the local authority concerned." I therefore invite Mr. Elliot to become a planner, to have a mind of his own, and, having got a mind of his own, then to try to deal with all the nasty problems which will follow from imposing his will on the individual local authorities.

The Ministry of Transport—though this may be sheer bias, I having been Minister of Transport myself—has, I think, a little more of the national mind in the planning of highways and roads, but still not enough. They have a general scheme, however, as to the national planning of roads and they have divisional road engineers who hold the local authorities by the hand and persuade them to go upon the lines which the Minister wants them to follow. I am in favour of that and I am willing that the London County Council should try broadly to go the way that the Minister and Sir Charles Bressey want us to go, as long as they will give us grants which are adequate to meet the financial requirements of the Bressey Report; but what I am not willing to do is to spend millions upon millions of the money of the ratepayers of London upon the basis that London roads are a liability towards which the Road Fund should not bear a definite preponderant degree of responsibility. After all, the motoring community of our country is contributing enormous sums to the Road Fund; and, that being so, motorists are entitled to know that that money in essence is going for highway purposes and is not being stolen by wicked Chancellors of the Exchequer for other purposes.

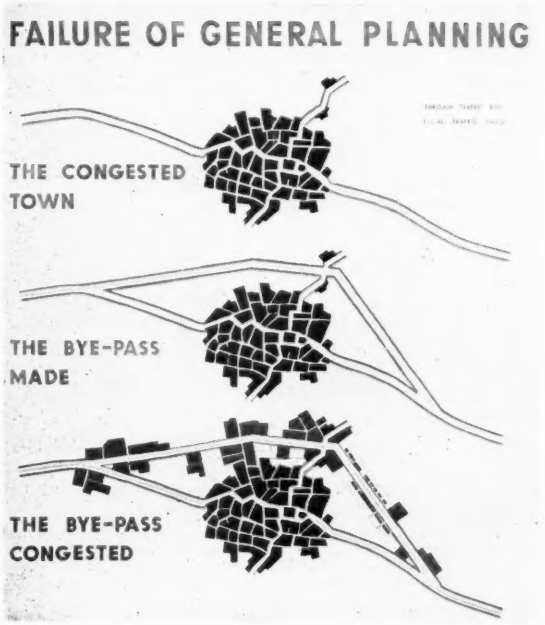
Subject to that, I want the Ministry of Transport to be the big noise as to the planning of the road system of the country and to go forward upon that basis, although local authorities should be effectively heard. I believe, however, that that Department is doing more, perhaps, in the direction of national planning than the Ministry of Health. The fact has to be recognised that in the making of town plans and regional plans highways and road construction schemes are the backbone of town planning and are exceedingly important. Therefore, there is need for the closest liaison between the Ministry of Health and the Ministry of Transport with regard to the future national planning of the country. I hope, therefore, that any future Minister of Transport who appoints officers to survey the highway system of Greater London and to make reports upon it will come to the conclusion that it would not be a bad idea at least to tell the Minister of Health, as the town-planning Minister, that he was going to do it before actually doing it.

Finally, let me say that I am wholly in favour of planning. I am a keen planner in town planning, in highway development and, indeed, in the whole economic and social life of the nation. But let the architect face this and let the engineer face this; I have to face it and Mr. Culpin has to face it every day as public administrators. At some time or another we must settle whether the individual rights of private property are to stand in the way of the need for the communal, public-spirited planning of the nation's economic and material resources. If you say to me, or if you say to the Minister, "Before you can make any plan you must square up with every individual property-owner, who is not only to have 100 per cent. of his rights but upon the whole 150 per cent. of his rights," do not grumble at me and do not grumble at Ministers if we cannot give you the degree of planning that you want.

This assumption that the rights of individual property have to come before the rights of the nation and the needs of communal planning is one in which you may believe and this afternoon I am not going to quarrel with you if you do—on another occasion I will!—but, if you do believe in that, please do not grumble at the public administrator if he is held up and obstructed and if it is made impossible for him to obtain the comprehensive planning scheme that he wants.

Some people say to us, "You are making a town plan for the administrative county of London." We are. Then they say, "Why do not you leave big open spaces in the middle of your plan?" I should like to do so; I should like to break this city up so as to get proper open spaces properly distributed. We are fortunate in the open spaces which we have in London, but I have my Finsburys and my Bermondseys, my Southwarks and my Stepneys and my Poplars, where there is not anything like the public open space which there ought to be. I can paint the plan green, however, and arrange with the town-planning committee that when a building comes down nothing is to go up in its place, and when I do that the owner will go to the Minister and the Minister will say, "If you want to have open spaces there you can buy that land at building site value, or you can compensate the owner as between agricultural and building value." I cannot do it. I am answerable to the ratepayers. I have taken fair liberty with those ratepayers and they have been very good to me and I appreciate it—mind you, they ought to be, because I have given them jolly good value for their money! (Applause.) I know, however, that if I go beyond a point in taking liberties with those ratepayers of London, they will worry about it and, although they may admire me, they will strangle me nevertheless! I do not want that point to come!

The planner, therefore, is not free. The town-planning authority is not free, because when it paints the plan green it may also be painting a terrific bill for compensation for the owners of property. That is a very real difficulty which I cannot make light of, politically or economically, and which has to be faced. Moreover, the whole control of the disposal of land and its use is very difficult with the large numbers of private ownerships which we have. The future of London



would be much easier to control if the London County Council was the sole owner of land in the administrative county of London. We are getting on ; we have 10 per cent. of it and I hope to increase that as time goes on.

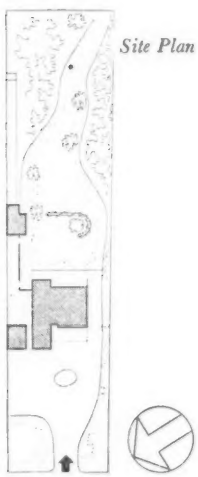
I yearn for the day when the professional men—the architects, the engineers, and so on—can really plan without all these inhibitions and limitations and opposition by vested interests which are holding them up. I like the technician ; I like the expert ; I like the professional man. I like his spirit : it is so often a perfectly genuine public spirit. I like to read of the discussions which you have here in the Royal Institute of British Architects and I like to read of the fine visions that you have of a Britain and a London that are beautiful and of which we can all be proud. I like your ideals, that you would like to be free to go and plan and make a London and a Britain nearer to the heart's desire. I have that wish and that enthusiasm also. What is holding you and what is holding me back, however, is that we are living in a world and in a civilisation where rights and protections and interests are curbing us and confining us at every turn. I want the position to come about one day when I, as the administrator and politician, and you, as the technicians and the professional men, will be able to have that degree of freedom in building a better, more beautiful and more glorious Britain and London, without these fetters, without these restrictions and without these inhibitions that are strangling your professional ambitions to-day and which are strangling my economic and social ambitions as well.

It will not come in five minutes, but it will come, and I hope that it will come soon. This Exhibition is a gesture towards that better day. This Exhibition is putting before us all sorts of snags and imperfections and problems that we have to solve. Some day we will solve them. In the meantime, look at the Exhibition, look at the snags, look at the problems, look at the " might-have-beens." It will be good for you, and that is why, Mr. President, I have great pleasure in declaring this Exhibition open. You will forgive me if I must now go, but Sir John Anderson, the Lord Privy Seal, will be on his feet in two or three minutes to open a debate on air raid precautions. I have to answer him and if I am not there when he says what he has to say, it will be a little difficult or impudent for me to do so. The debate, as I have already said, ought to have taken place yesterday, but I lead the London County Council ; I do not run the House of Commons.

After his departure Mr. A. H. Moberly [*F.*] proposed a vote of thanks to Mr. Morrison, which was put to the meeting by the President, Mr. H. S. Goodhart-Rendel [*F.*], and carried unanimously with acclamation.

TIMBER HOUSE IN MIDDLESEX

Architect: MAX LOCK [A.]



Site Plan

This house is situated on an exposed site in Middlesex. The estate on which it is built is well covered with birch, chestnut, beech and fir trees. The site itself is rather narrow, particularly since it was necessary to set the house back fifteen feet from the S.W. boundary owing to the timber construction. This narrow site, and the aspect, determined the plan form ; dining-room and living-room were to have a principally S.E. aspect, and garden room, study and maid's sitting-room to face S.W. The three principal bedrooms were to face S.E.

PLAN

The main two-storey block of the house comprises, on the ground floor, a large entrance hall, a study and a living-room widened by a bay at one end to form a dining space. The large brick chimney-piece in the living-room contains a basket grate for burning logs and has a space for storage of logs adjacent ; the glazed doors opposite it slide into a wall cavity, leaving a twelve-foot wide unobstructed opening on to the terrace.

The study, which may be used as an occasional bedroom, and has a bed which pivots into a cupboard, can be separated from the entrance hall by a sliding door ; but for normal use an attempt has been made to link it as much as possible with the entrance hall by means of a continuous range of windows and by the long, wide cill over the cupboards and bookshelves.

The one-storey wing which penetrates this main block of the house contains the kitchen, service room, maid's sitting-room and bathroom, and a w.c. approached from the outside for the use of the maid and gardener. The one-storey wing flanking the house on the N.E., partly covered and partly open, is formed by a service area comprising a garage for two cars, a car wash yard and a covered wood store, and an area planned in relation to the living-room and garden, containing a covered way which leads to a large garden room and sun loggia. The one-way pitch roof to the garage gives enough height for an upper-level storage platform over about half the area.

On the first floor the main bedroom, with a balcony, has direct access to the bathroom, and the remaining three bedrooms each have lavatory basins accommodated in their ranges of built-in cupboards. The single pitch roof slopes down to give a seven-foot ceiling at the N.W. wall, sufficient height for the airing room, w.c., landing and store which occupy this side of the building.

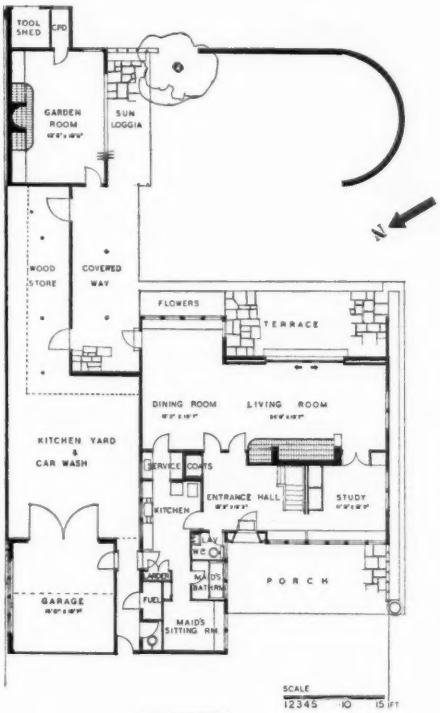
The eight-foot projection of the roof on the S.E. façade is designed to protect this face of the building, and particularly the first-floor bedrooms, from rain and midday summer sun.

THE GARDEN

The site is about eighty feet wide by three hundred and forty feet deep ; the house is set back about ninety feet from the road on the N.W. and approached by a large gravel forecourt. On the living-room side of the house the garden flows towards the house in a winding and broadening " river " of grass from a group of pine trees at the far end of the site. Shrubs and small trees lie on either side of this grass and a long thin strip of kitchen garden runs up the N.E. boundary from the tool shed adjacent to the garden room.

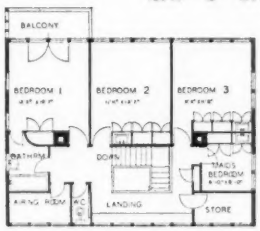
CONSTRUCTION AND FINISHES

Construction is of timber, on the platform system. Walls are of 4-in. × 2-in. studs at 18-in. centres, with ½-in. diagonal rough boarding, building paper, and ¾-in. × 6-in. cedar external boarding laid vertically with 2½-in. × 1¼-in. cedar cover fillets. In general, the flooring on the ground floor is of 3-in. oak strips on diagonal rough boarding and felt ; on the first floor the surface is Columbian pine. The floor finish in the kitchen, cloakroom and bathroom is blue linoleum. All windows are of wood, and mostly of the pivoting casement type.

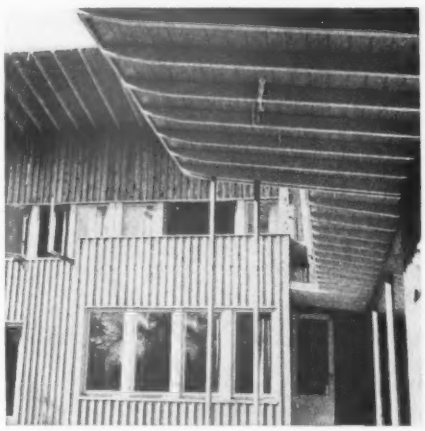


Left: Ground floor plan

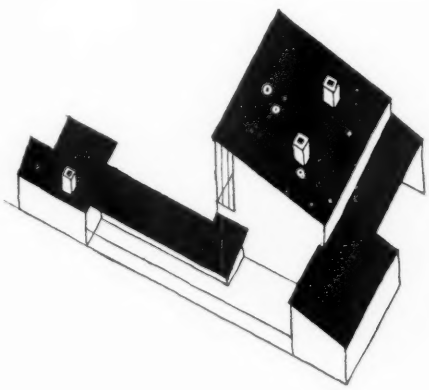
Right: A detail of the eaves, which project 8 ft. from the S. E. façade



Left: First floor plan

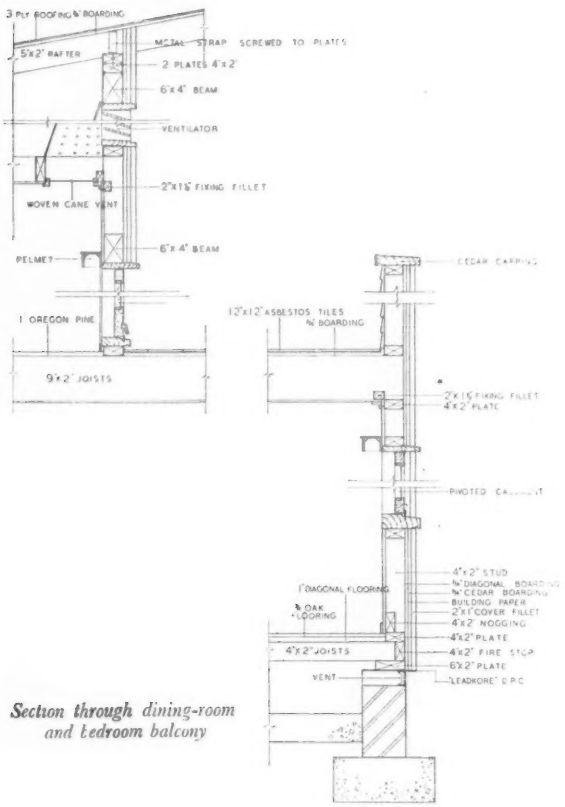


Right: The roof of the sun loggia and the covered way leading to the dining-room



Left: Diagrammatic axonometric

Right: The garden elevation



Section through dining-room and bedroom balcony

To deal with wind pressure under the projecting eaves on the S.E., each rafter is strapped down ; a four-foot vertical strap extends down from the rafter over the abutment of each partition with the S.E. wall, and this strap is bolted to the stud as a further precaution.

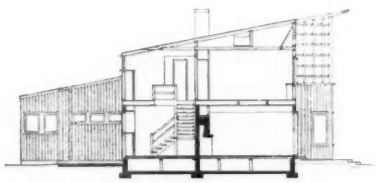
The roof is surfaced with bituminous felt, in two layers, with a layer of bitumen between, and coated first with aluminium paint and then with a grey bituminous paint. The verges are covered with copper flashing.

No plaster is used internally. Walls are lined with a ½-in. building board, and finished in the ground-floor living areas with Japanese grass cloth. On the first floor the wallboard is distempered. In the kitchen, bathrooms, cloakroom and in the bedroom washing cupboards, the wall surface is finished with a synthetic porcelain enamelled pulp board glued to the building board with a patent adhesive.

Skirtings and combined cornice-picture-rail member are of maple, and ceilings of building board on the first floor and plywood on the ground floor. The plywood ceilings in the living-room and dining space are of 18-in. square birch panels laid alternate grain, and in the study, hall and landing above of alternate ash and birch panels.

The staircase is in Japanese oak, without carriages or risers ; the 12-in. × 2-in. treads bear directly on the 12-in. × 2-in. cut strings.

Central heating (radiators) and hot water are supplied from one gas boiler.



Section through entrance hall and living-room

The garden room and sun loggia seen from the living-room

Contractors and Suppliers of Materials

General Contractors : The Lewis Wilson Construction Co., Ltd., Ashford, Kent.

Sub-contractors and Suppliers : Cedar boarding, Farquharson Bros. & Co. ; roofing felt, Blackwells & National Roofings, Ltd. ; plywood ceilings, John Woyka & Co. ; flooring, Hollis Bros. & Co. ; electric wiring, S. Jones, Ashford, Kent ; plumbing and central heating, C. Hentage, Ashford, Kent ; sanitary fittings, Stitson, White & Co., Ltd. ; door furniture, N. F. Ramsay & Co., Ltd., and Standard Range & Foundry Co., Watford ; sliding gear, King & Co., Hitchin, Herts ; internal doors, Ace Laminated Products ; internal wall facings, " Insulite " and " Synmar," Messrs. Pharaohs, Ltd. ; joinery, H. W. & A. Rowles, Heston, and W. Key & Sons, Berkhampstead ; clocks, Smith's English Clocks ; drive, G. Skinner & Sons, Enfield ; shrubs and trees, Cutbush, Barnet.

FORTHCOMING CONFERENCES

XVTH INTERNATIONAL CONGRESS OF ARCHITECTS, WASHINGTON, 1939

The XVth International Congress of Architects, organised by the American section of the Permanent International Committee of Architects, will be held in Washington by invitation of the President and Congress of the United States from 24-30 September 1939. It is proposed to leave Havre on 16 September and, unless an extended stay is desired, participants will leave New York on 7 October and return to Havre on 13 October. Further particulars concerning the detailed programme of the Congress, short tours in America and Canada after the Congress, etc., will be issued later. A booklet generally descriptive of the conference can be obtained from the R.I.B.A.

It is anticipated that the total cost of the round trip should not exceed £100.*

The following subjects have been accepted by the Permanent Committee from the lists sent in by the various sections for discussion at the meeting.

Theme 1—**Country Planning**

DISPOSITION AND PLANNING OF RURAL REGIONS

(*a*) Units of Land Ownership: The Basic Element of Agricultural Production.

(*b*) The Rural Hamlet: An Elementary Social and Economic Problem.

(*c*) The Rural Region: The Ensemble of the Economic Problems of the Country.

Theme 2—**Town and Country Planning**

THE RELATION BETWEEN POPULATION DENSITY AND THE BUILT-UP AREA

(*a*) Low Buildings and High Density.

(*b*) High Buildings and Low Density.

Theme 3—**Technical**

PRESENT-DAY ARCHITECTURE COMPARED WITH ARCHITECTURE OF THE PAST

(*a*) From the Technical Point of View.

(*b*) From the Æsthetic Point of View.

(*c*) From the Social Point of View.

Theme 4—**Professional**

CONSEQUENCES OF STATE AND LOCAL GOVERNMENT INTERFERENCE IN THE PREPARATION OF PLANS AND THE EXECUTION OF BUILDING SCHEMES

(*a*) On Architecture in General.

(*b*) On the Normal Exercise of the Profession.

Membership of the Congress is open to all qualified architects, who may be accompanied by members of their family or guests of either sex.

The proceedings take place in one or other of the four official languages—English, French, German or Italian.

Members who intend to take part in the proceedings are required to communicate with the Hon. Secretary of the British Section C.P.I.A. (Lt.-Col. H. P. Cart de Lafontaine [*F.*]), 11 Suffolk Street, Pall Mall, S.W.1, in order that further information may be forwarded when it is available.

Before the Congress opens members will have an opportunity of seeing New York, the World Fair and several of the most important New York buildings. After the conclusion of the Congress there will be a Main Tour to Chicago, Detroit, Niagara and back to New York and a special New England Tour.

* The following are the suitable boats and fares :—

WEST BOUND

Paris departs Southampton 13 September, arrives New York 20 September.

Cabin Class	Tourist Class	Third Class
£43 15s. 0d.	£27 17s. 6d.	£19 0s. 0d.

Mauretania departs Southampton 9 September, arrives New York 16 September.

Cabin Class	Tourist Class	Third Class
£45 10s. 0d.	£28 2s. 6d.	£19 0s. 0d.

EAST BOUND

Queen Mary departs New York 4 October, arrives Southampton 9 October.

Cabin Class	Tourist Class	Third Class
£56 0s. 0d.	£29 7s. 6d.	£19 7s. 6d.

Samaria departs New York 6 October, arrives Liverpool 16 October.

Cabin Class	Tourist Class	Third Class
£31 2s. 6d.	£23 7s. 6d.	£17 2s. 6d.

Aurania departs Montreal 13 October, arrives Plymouth 21 October, London 22 October.

Cabin Class	Tourist Class	Third Class
£26 0s. 0d.	No Tourist on this ship	£16 15s. 0d.

INTERNATIONAL FEDERATION FOR HOUSING AND TOWN PLANNING

STOCKHOLM, 8 JULY-15 JULY 1939

The International Federation for Housing and Town Planning, Brussels, will hold its next Congress, to be followed by Study Tours, at Stockholm from 8 July to 15 July 1939 at the invitation of the City of Stockholm.

SUBJECTS

I. House Building for Special Groups, introduced by Mr. J. de Jonge van Ellemeet, formerly Director of the Municipal Housing Department, Rotterdam.

II. Town Planning and Local Traffic, introduced by Landesrat R. Niemeyer, Berlin, President of the German Academy for Town Planning, National and Regional Planning.

III. Administrative Basis of National Planning, introduced by Mr. Lilienberg, Director of the Town Planning Department, Stockholm.

Enquiries should be made to Mrs. Paula Schäffer, Secretary of the I.F.H. and T.P., 47 Cantersteen, Brussels.

Book Reviews

"ARCHITECTURAL LIBRARIES"*

Mr. Hamlin, who is Librarian of the Avery Architectural Library of Columbia University and an accomplished scholar, visited Europe in the summer of 1937, thanks to a grant from the Rockefeller Foundation, and this interesting book contains the results of his investigations in fifteen famous libraries, mainly concerned with architecture. These included our own, the Courtauld Institute, the Soane Museum, and the Victoria and Albert Museum in London; the École des Beaux Arts and the Institut de France in Paris; the Uffizi Gallery in Florence; the American Academy, the Reale Istituto di Archeologia e Storia dell' Arte, and the Deutsches Archäologisches Institut, in Rome; the National-Bibliothek and the Albertina in Vienna; and three libraries in Munich. Lack of time prevented a visit to Berlin. Although Mr. Hamlin expresses most warmly his gratitude to those who helped him with information and advice, notably to the staff of the R.I.B.A. Library, he is extremely and properly critical wherever criticism is justified, and his book is full of helpful suggestions, though at the end of it all he leaves us aghast at the difficulties which the architectural librarian has to face.

These arise primarily from the peculiar nature of his wares, and increase proportionately with the facilities for open access and ready reference afforded to the library's clients. The first obstacle is the enormous size and weight of many architectural folios, an obstacle which—it is to be hoped—will not be caused by publishers in the future. These huge tomes interfere with any systematic and logical system of classification; if placed on edge they are difficult to dislodge, and both binding and covers are apt to be damaged; if laid flat they are nearly as much of a nuisance. Even their smaller dimension is far more than any normal shelf width, and Mr. Hamlin comments favourably upon the type of bookcase installed at the R.I.B.A., which has adjustable backs giving a maximum shelf width of 30 ins. It is extraordinary how this inequality of size affects all classification, and therefore cataloguing; but any architect possessing a tolerable collection of books must have realised the difficulty of arranging them on any methodical system, whether topographically or otherwise, because of their hopelessly varying dimensions. No sort of classification that is logical produces a sightly arrangement of books, and thus no really efficient architectural library can compete in appearance with so magnificent an example as, say, the library at Kenwood, where the fine bindings in their perfect setting are a real delight to the eye.

Of the classification of our own Library, Mr. Hamlin writes: "The R.I.B.A., seeking for the most perfect, scientific, detailed and logical classification, has adopted a much interpolated and expanded Brussels system, possibly in the effort to combine shelf list and subject catalogue in one. It is, of course, a tested and excellent system, capable of almost indefinite extension; but the greater the detail the longer the numbers become, until one begins to wonder why such ponderous numbers and such precise definition is necessary." But he adds that: "One simple element in the R.I.B.A. classification which deserves commendation is its treatment of rare and early books."

The storage of periodicals, whether learned or merely technical, is a separate problem, of which he writes that "one almost fears for a cultural world smothered, and finally buried, under the terrific landslide of learned periodicals, with the scholars trying in vain to dig themselves out." He mentions the R.I.B.A. Library as having the best catalogue of periodicals, and as being alone among those visited in having a "clippings file"; but regrets that it does not list authoritative articles on "history, criticism and æsthetics."

Of all the problems which he discusses the most baffling is the preservation, storage for reference, classification and cataloguing of architectural drawings, prints and photographs. "There seem to be but two basic logical methods of classifying drawings—one, basically by the artist; the other, basically by accessions number (*numero currens*)." Curiously enough, Mr. Hamlin does not describe the methods in use at the Victoria and Albert Museum; but, of the collections which he did examine, he favours the classification adopted at the Albertina in Vienna, and regards the R.I.B.A. arrangement as a "compromise system." On the other hand, he is full of praise for the mounting and storage of our priceless drawings; and is captivated by the ingenious hinged frames at the Soane Museum. He speaks highly of the ingenious classification of the huge collection of photographs (nearly 250,000) at the Courtauld Institute, but again unaccountably fails to mention the Victoria and Albert Museum. For lantern-slides, another baffling problem for most architectural librarians, he favours the *numero currens* system, with reliance upon a carefully arranged catalogue; and explains how many libraries have a classified card catalogue with a "positive" print of each subject on its card. He also discusses the eternal question of dust, ventilation, and the effect of damp and sun upon valuable bindings.

* *Some Architectural Libraries: their methods, equipment, and administration.* By Talbot Hamlin. 8vo. xx + 110 pp. + 10 plates. New York: Columbia University Press; London: Humphrey Milford (Oxford University Press). 1939. 15s.

Last of all comes the planning of the library room or rooms, as opposed to the arrangement of the contents. Functionally, a library for serious students should permit of ready access accompanied by effective but (so far as possible) invisible and inaudible supervision for its treasures. In this respect, Mr. Hamlin is delighted with the freedom of the British Museum Reading Room where, as he says: "Once your reader's ticket is obtained, the doors are all opened." And so he asked for, and immediately obtained, access to the first manuscript of Vitruvius. Of our own library, which is more fully illustrated than any other in the book, he writes that: "The needs of the architectural student, . . . of the practising architect and of the lay public, have all been studied." . . . "For the layman there is . . . excellent, pleasant, informal reference assistance. Moreover, the atmosphere, helped by the loveliness of the room, is kept as personal and as unmechanised as possible." Unfortunately, Mr. Hamlin made his visit a few weeks before the publication of the new Catalogue; otherwise he would doubtless have added high praise for our Library's greatest achievement.

There are a few errors of fact, such as that the Thorpe collection is recorded as being at the R.I.B.A. and not at the Soane, and a few misinterpretations, due perhaps to the necessities of a hurried tour: also there are a few misprints, but the book is a careful study which will encourage the librarians to do even better in the future.

THE FACTS OF LIFE

THE FLAT BOOK. *By J. L. Martin and S. Speight. 8vo. 200 pp. inc. over 400 photos+plans. London: Heinemann. 1939. 5s.*

"The planning of living accommodation, either in the house or flat, is undergoing at the present time a considerable revolution," say the authors of this magnificent little book. The revolution is one that has got the better of everyone, whether they like revolutions or not, and is certainly not one which architects can afford to disregard. The architect's and the householder's problem is to control it and turn it to their own advantage. Modern ideas of planning, the mass of new equipment that the prodigal resources of modern industry offer us can merely be an embarrassment unless we know exactly what they have to offer, what advantages in simplification rather than complication of living can be derived from them.

This book should make the difficult business of planning and equipping a modern house more simple. There is no book like it, probably because no one hitherto has had the patience to do what Dr. and Mrs. Martin have done, and few people could have done so well as they have done in choosing, co-ordinating and describing all the items of domestic equipment now on the market.

The Flat Book is itself simple and beautifully arranged. The first chapter on "The Background" deals in few words with the fundamental elements of planning and does not attempt to repeat the fuller descriptions of the technique of planning that have been published elsewhere. Six modern flat plans are given rather as an indication of the kind of dwelling the authors have in mind than as illustrations to a lesson on planning. All the plans are of the type of flat that can properly be described as "modern" rather than merely "contemporary." Subsequent chapters deal in turn with furnishing, general equipment in fittings, heating, lighting, artificial ventilation, floors and walls, and fabrics, services and lobbies, living and sleeping space, and, finally, minor equipment such as glassware, pottery, silver, etc.

Each chapter consists of a short text, generally not more than two pages to each section, followed by several pages of good photographs of the best examples the authors could find of the equipment or materials available on the market in Great Britain to-day. Each item illustrated has a short caption giving its maker and its retail price, and in many cases information about sizes and qualities. Often information is given about additional items which are not illustrated.

The book is therefore the most complete catalogue in existence of up-to-date and well-designed equipment of every kind needed in a small house or a flat: tables, desks, chairs sofas, beds, carpets, fabrics, stoves, lamps, basins, baths, irons, trolleys, shelves, plates, dishes, saucepans—everything. Now no longer need the architect or client go nervously into a store to ask, "Is there, or have you, a modern-designed this, that or the other?" He can go boldly book in hand and say, "I want this," and in the face of the Martins' evidence not even the blandest shopman can deny or divert the shopper's desires in favour of the wholesale buyers' outmoded tastes and decorators' chichi.

The natural emphasis that must be paid to the 400 illustrations, which are the book's main contribution, must not allow the pages of clear-headed text to be disregarded. The reader may in glancing through the section on colour and texture or room arrangement be deluded by the simplicity and clarity of it all into thinking that it is all just common-sense: so it is; but not the kind of sense that is common in books or in the heads of most architects. It is the common-sense of the modern movement expressed with rare clarity and including besides plenty of original thought. This is particularly true of the section on colour, which contrives without illustration to convey the authors' ideas and is a model text of instruction on a part of domestic design that has scarcely ever been tackled before, so difficult is it to do well.

At the end is a short bibliography of English books and a list of addresses of all the firms and individuals mentioned in the body of the book, and, lastly, there is a good index.

To conclude a review all of praise there should be a word of well-deserved praise for Messrs. Heinemann, the publishers, and the Shenval Press for their share in making the price so low and for the general quality of production.

A HANDBOOK TO ENGLISH FURNITURE

A KEY TO ENGLISH FURNITURE. *By H. P. Shapland [A.] 8vo, xiv+202 pp. 16 plates. London: Blackie, 1938. 5s.*

This little book, by an architect, and one fully acquainted with the furniture trade by birth, and for many years the editor of the *Cabinet Maker*, opens with a stimulating preface by Sir Ambrose Heal, perhaps the pioneer and certainly one of the great influences behind what we know as "modern furniture." Sir Ambrose was one of the first to appreciate the fact that styles do not grow "Topsy fashion," but develop out of what has gone before. Hence the "Sign of the Four-poster," a tacit acknowledgment of origins.

Mr. Shapland opens with pre-Norman (Saxon?) and Gothic, and he even steps back to Roman, unfortunately not in illustrations. One point appears to have escaped him here, of some considerable importance. The craft of the

woodworker is not the inheritance of the ages, and when the statement is made—which is a literal fact—that the English chair, right up to the end of Elizabeth's reign, is a box with a back and arms, and that the chair on legs only begins with James I, it is easy to counter with the statement that chairs with legs were found in the tomb of Tutankhamen and are to be seen in the Ghizeh Museum at Cairo. The whole history of English furniture is one of decline and rejuvenation, and that is why we get the unconstructional furniture where doors are made from mere slabs of oak, without framing, sandwiched in between the Gothic and the Tudor.

One cannot agree with Mr. Shapland as to the importations of oak. Right up to about the end of Charles II, large tables and wall furniture were made of English oak, *Quereus robur*. The difficulty with this timber was that for furniture many years of seasoning were required, but this difficulty, with large church doors, or wall panellings, was surmounted by riving or splitting the timber on its natural cleavage lines. Riven oak will stand where sawn timber will warp and crack. The early craftsman also knew his limitations, and used his timber in small surfaces ; it was the architect, devoid of wood traditions, who dictated the large panel, as in the Clifford's Inn room, now in the Victoria and Albert Museum.

On page 190, the author refers to " french," or shellac, polishing, without mentioning that this was an innovation of the nineteenth century. The earlier surfaces were produced by waxing, or varnishes. Some technical account of the latter would have been very serviceable, all the more as one feels that Mr. Shapland could have supplied this information.

May one venture to question the date given to Plate III, a black lacquer cabinet on a carved and gilded stand ? Whatever the date of the cabinet may be (always a very debatable problem), the stand and the pediment are both eighteenth century.

The book, as a whole, is extremely readable, having regard to its small compass confining a great subject, and as a primer, stimulating interest in English furniture, should have a wide sale, especially as its price places it within the reach of everyone. A comprehensive bibliography, and perhaps a glossary, as in E. W. Gregory's *Furniture Collector*, might have added to its value, to the student, as indicating the pathway to future studies.

HERBERT CESCINSKY [*L.*]

MEDIÆVAL ANIMAL CARVINGS

ANIMAL CARVINGS IN BRITISH CHURCHES. *By M. D. Anderson. 8vo. 93 pp. + 43 plates. Cambridge University Press. 1938. 5s.*

Our knowledge of the smaller mediæval carvings such as are found in roof bosses and in tabernacle work is being rapidly extended by the painstaking efforts of scores of amateur tele-photographers, and their works reveal a surprising variety of animals, both real and mythical, known in the Middle Ages.

Miss Anderson gives an alphabetical list covering twelve pages of examples of animals and birds, with the places where they are portrayed. The list is stated to be as complete as the author can make it ; a wise proviso in the present state of knowledge.

The subject is one of more interest to the social historian and the archæologist than the architect, nevertheless we cannot avoid brushing against it in the study of our art, and few will regret browsing over these excellent illustrations and the well-written letterpress.

Part I, which deals with " Sources," is fascinating, for it contains suggestions which go some way towards satisfactorily explaining the seeming incongruity of the satirical and irreverent subjects of so many of the subject carvings. To cite only one example, it appears that the romance of " Reynard the Fox," which originated at least as early as the 7th century, had become a widely known and popular folk-tale by the later Middle Ages, and that such frequently depicted scenes as the trial and execution of the fox, or the fox, habited as a monk, preaching to geese, were generally known incidents from this story.

When allowance is made for heraldic and symbolic animals the proportion of fabulous monsters is remarkably small. Nevertheless, in this book you will find the basilisk, the barnacle-goose, the blemya, the sciapod and other creatures from the land of dreams, and much to dream about.

W. W. BEGLEY [*L.*]

NORFOLK WATER MILLS

THE OLD WATER MILLS OF NORFOLK. *By Claude J. W. Messent [A.]. with 60 illustr. by author. 4to. 64 pp. Norwich : Fletcher. 1939, 6s.*

The mills of a country are among its most characteristic buildings in that they represent far more than the æsthetic architectural side of building and have deep reference to the whole social life and technology of the age in which they were built : furthermore, being for the most part simple and unadorned, they have those qualities of mass that unconsciously achieves architectural merit of a kind to which we to-day are particularly responsive.

Mr. Messent's record, coming after his previous books on *Norfolk Abbeys, Churches, Cottages and Farmhouses*, is in a good lineage. The same manner of presentation is followed as in the earlier books : a succession of drawings followed by a short descriptive text which is valuable because the author is content to record rather than indulge in " appreciation."

Behind an almost primitive simplicity of technique, Mr. Messent manages to pull off quite remarkable likenesses. His drawings have ten times the quality, as drawings, of most more slick works by expert topographical artists. He deserves, once more, our thanks both for the historical record and for the pleasure that may be had from his art.

UNDERGROUND WATER SUPPLIES IN LONDON

THE WATER SUPPLY OF THE COUNTY OF LONDON FROM UNDERGROUND SOURCES. *By Stevenson Buchan.* MEMOIRS OF GEOLOGICAL SURVEY OF GREAT BRITAIN. *8vo. 260 + x pp. D.S.I.R. London : H.M. Stationery Office. 6s.*

This is a record of the 1,080 wells in the administrative County of London, and of the underground water supply on which they draw. The overground supply within the county is deficient for London's need, consequently the Metropolitan Water Board derive the bulk of their supply from the higher waters of the Thames and Lea and also as much as ½ gallon per head of population per day from underground sources (the total M.W.B. supply is 37 gallons per head per day). Another 4½ gallons per head per day are drawn privately from underground sources.

Mr. Buchan's survey is a description of the geological formations with a view to the location of sources. The exact location of every well is noted and details of its construction, yield, etc. The work is of importance to architects concerned with the provision of wells in the County of London.

Review of Periodicals

Attempt is made in this review to refer to the more important articles in all the journals received by the Library. None of the journals mentioned are in the Loan Library, but the Librarian will be pleased to give information about price and where each journal can be obtained. Members can have photostat copies of particular articles made at their own cost on application to the Librarian.

Normally the journals referred to in this review, all of which are in the R.I.B.A. reference library, cannot be borrowed. Members are, however, asked to encourage their local public libraries and their local society's library to take as many journals as they can afford; and they are asked, for the convenience of local members, to notify the R.I.B.A. of what journals are known to exist in public or private hands in their own neighbourhood.

SCHOOLS

ARCHITECTURAL REVIEW. *1939. March. P. 143.*
Ansonia High School, Connecticut, for 750 students, by W. Lescaze and V. F. Sears.

ARCHITECTURAL RECORD (NEW YORK). *1939. February. P. 87.*
Good section on Elementary School buildings, dealing with Nursery, Kindergarten-Primary and Post-Primary or "Upper Elementary" Schools. Notes on planning and services and useful photographs and diagrams of equipment.
A copy has been added to the R.I.B.A. Loan Library.

ARCHITEKTURA I BUDOWNICTWO (WARSAW). *1938. No. 10.*
Issue illustrating fifteen large modern Polish schools.

LABORATORIES

LA CONSTRUCTION MODERNE (PARIS). *1939. 5 and 12 March. P. 238.*
Chemical Laboratories at "L'Ecole Nationale Supérieure des Mines," by L. Vaugeois and A. Levrat.

MODERNE BAUFORMEN (STUTTGART). *1939. March. P. 121.*
New Laboratory for the Ruhr Coal Syndicate at Essen, by Curt Wasse. For research into the chemical properties of fuel.

BOUWBEDRIJF EN OPENBARE WERKEN (THE HAGUE). *1939. 6 January.*
New buildings for the "K.E.M.A." at Arnhem, by R. L. A. Schoemaker, H. Fels and G. Hamerpagt, including electrical equipment laboratories, machine buildings and experimental buildings.

MUSEUMS AND EXHIBITIONS

ARCHITECTURAL RECORD (NEW YORK). *1939. February. P. 49.*
Project for a Museum of Science in Paris, by Paul Nelson, Nitzschké and F. P. Jourdain.

PENCIL POINTS (NEW YORK). *1939. February. P. 67.*
Article on the "Golden Gate" Exposition at San Francisco, by C. Magruder. Some good photographs.

DE 8 EN OPBOUW (AMSTERDAM). *1939. 7 January.*
The "Vikan" exhibition at Oslo.

BOUWKUNDIG WEEKBLAD ARCHITECTURA (AMSTERDAM). *1939. 4 March. P. 93.*
The Kröller-Müller Museum, by H. Van de Velde.

LIBRARIES

ARCHITECT AND BUILDING NEWS. *1939. 3 March. P. 278.*
Middlesex County Branch Library, Kenton, by W. T. Curtis [*F.*] and H. W. Burchett [*A.*].

CIVIC

BOUWKUNDIG WEEKBLAD ARCHITECTURA (AMSTERDAM). *1939. 18 February.*
Number on the competition designs for new civic buildings at Amsterdam.

ARKITEKTEN (COPENHAGEN). *1939. No. 1.*
Number on Danish town halls, illustrating those at Sonderborg, Norre-Sundby and Halmstad.

HOTELS AND RESTAURANTS

ARCHITECTURAL REVIEW. *1939. March. P. 137.*
Kardomah café in Manchester, by Misha Black and Walter Landauer.

ARCHITECT AND BUILDING NEWS. *1939. 10 March. P. 303.*
Hotel in the Arctic Circle, by V. Vahakathiu. About sixty bedrooms.

MODERNE BAUFORMEN (STUTTGART). *1939. March. P. 133.*
Hall and restaurant in a hotel in Essen, by Curt Wasse.

OFFICES

ARKITEKTEN (COPENHAGEN). *1938. No. 10.*
Large office building by F. Schlegel.

SHOPS

ARCHITECTURAL REVIEW. *1939. March. P. 135.*
Jaeger shops in Glasgow, Nottingham, Wolverhampton and London, by J. Duncan Miller.

BYGGE KUNST (OSLO). *1938. No. 10. P. 201.*
Large general store in Bergen, by P. Grieg.

INDUSTRIAL

LA CONSTRUCTION MODERNE (PARIS). *1939. and 12 March. P. 228.*
Factory and maintenance buildings for "Marcel Bloch" aeroplanes, by G. Hennequin.

BAUWELT (BERLIN). *1939. No. 9. P. 1.*
Large factory and staff buildings for *Junkers* at Dessau, by Werner Issel.

WELFARE AND COMMUNITY BUILDINGS

ARCHITECT AND BUILDING NEWS. *1939. 3 March. P. 269.*
Hounslow Health Clinic, by J. G. Carey and G. H. Jackson [*A.*]. The building houses the Public Health Department and provides a central clinic for the borough.

K.M.B.A. (ANTWERP). *1938. August. P. 197.*
Country rest home for children, by L. Stijnen.

L'ARCHITETTURA ITALIANA (TURIN). *1939. No. 1. P. 4.*
Large students' hostel in Turin, by F. Grassi.

HOSPITALS

ARCHITECTS' JOURNAL. *1939. 9 March. P. 422.*
Harlow Wood Hospital, Nottingham, by Bromley, Cartwright and Waumsley [*A.*]., an orthopædic hospital of the pavilion type.

SPORTS BUILDINGS

ARCHITECT AND BUILDING NEWS. *1939. 3 March. P.282.*
Bathing beach at Lausanne, by Marc Piccard. The completed portion of the scheme includes lawns with provision for open-air games, dressing-rooms and restaurant.

ARCHITECT AND BUILDING NEWS. *1939. 10 March. P. 306.*
Sports Pavilion at Stag Lane, Middlesex, by Mitchell and Bridgwater [*AA.*].

REVISITA DE ARQUITECTURA (BUENOS AIRES). *1939. No. 1. P. 5.*
Racecourse at San Isidro, by Acevedo and Moreno. Interesting reinforced concrete stands.

CINEMAS

ARCHITECTS' JOURNAL. *1939. 2 March. P. 379.*
Cinema accommodating 1,150, a skittle alley and an hotel with about 50 beds on a confined site in Zurich, by M. Hauser.

BYGGMÄSTAREN (STOCKHOLM). *1939. No. 4.*
Number on cinemas. Notes on auditorium requirements and plans and illustrations of the " Rex " at Helsingfors (a scheme including shops and restaurant), and the " Aveny," " Pelikan " and " Draken " at Stockholm.

STUDIOS

ARCHITECTURAL RECORD (NEW YORK). *1939. February. P. 40.*
Five sound film studios in California for M-G-M Pictures, by C. P. Hubert.

RELIGIOUS

ARCHITECTS' JOURNAL. *1939. 9 March. P. 405.*
St. Gabriel's Church, Walsall, by Lavender and Twentyman [*F/A.*].

BYGGE KUNST (OSLO). *1938. No. 10. P. 208.*
Church in Norway, by Morseth and Gedde. Simple brick and concrete construction.

MODERNE BAUFORMEN (STUTTGART). *1939. March. P. 141.*
Evangelical church in Upper Bavaria, by Bruno Biehler.

BAUMEISTER (MUNICH). *1939. March. P. 97.*
Protestant Church at Ratshof, by K. Frick-Königsberg.

HOUSING

PENCIL POINTS (NEW YORK). *1939. February. P. 81.*
Article : " Housing *is* Architecture," by T. F. Hamlin, reviewing some recent housing work in the U.S.A.

DOM OSIEDLE MIESZKANIE (WARSAW). *1938. Nos. 8-9, 11, and 12.*
Issues on the housing question in Holland, housing in the Third Reich, and mechanical problems in low-rent housing.

HOUSES

ARCHITECTURAL REVIEW. *1939. March. P. 119.*
Interesting town-house in Paddington, by Denys Lasdun [*A.*]. Fully illustrated.

ARCHITECTURAL REVIEW. *1939. March. P. 139.*
Brick and timber house near Oxford, by Samuel and Harding [*AA.*].

FLATS

ARCHITECT AND BUILDING NEWS. *1939. 10 March. P. 294.*
" Fiona House," Bloomsbury, by Marshall and Tweedy [*FF.*], providing bed-sitting room accommodation and club facilities for ladies.

ARCHITECT AND BUILDING NEWS. *1939. 10 March. P. 308.*
Block of flats in St. John's Wood, by I. Schultz [*A.*].

BYGGMÄSTAREN (STOCKHOLM). *1939. No. 1.*
A block of flats for business girls by Backström and Renius. Accommodation for 203 in the form of bed-sitting rooms with private kitchens and lavatories, and club-rooms, gymnasium, etc.

BYGGE KUNST (OSLO). *1938. No. 10. P. 191.*
Competition schemes for layout plan and blocks of flats in a suburb of Oslo.

MATERIALS

ARCHITECTURAL REVIEW. *1939. March. P. 153.*
Section on Paint, by W. Tatton Brown [*A.*].

ARCHITECTURAL RECORD (NEW YORK). *1939. February. P. 66.*
Section on " Glass . . . structural material of to-morrow," by Dr. Jaroslav Polivka.

CONSTRUCTION

R.I.B.A. JOURNAL. *1939. 6 March. P. 455.*
Paper on alternative methods of house construction being carried out in the Special Areas of Scotland, by John Wilson [*F.*].

ARCHITECTURAL RECORD (NEW YORK). *1939. February. P. 45.*
Mopin system of construction, Quarry Hill, Leeds.

HISTORICAL

R.I.B.A. JOURNAL. *1939. 6 March. P. 433.*
Paper on the Great Landowner's Contribution to the Architecture of London, by John Summerson [*A.*].

АРХИТЕКТУРА (MOSCOW). *1939. No. 2. P. 76.*
Portraits by Cameron, an English artist who worked for Catherine the Great.

TOWN AND COUNTRY PLANNING

JOURNAL OF THE CHARTERED SURVEYORS' INSTITUTION. *1939. March. P. 593.*
Two Memoranda by the Council of the Institution : one submitted to the L.C.C. in 1937, dealing in general terms with the outline preliminary proposals, as they were then known, for the planning of London ; and one submitted in 1939 on the Draft Planning Scheme for Battersea and Wandsworth.

DOM OSIEDLE MIESZKANIE (WARSAW). *1938. No. 10.*
Articles on building and population densities in American cities, and on population densities and population trends in Warsaw.

GENERAL

PENCIL POINTS (NEW YORK). *1939. February. P. 98.*
Article on " Articulate Form in Landscape Design," by J. C. Rose.

LA CONSTRUCTION MODERNE (PARIS). *1939. 5 and 12 March. P. 222.*
The restoration of Rheims Cathedral.

BYGGMÄSTAREN (STOCKHOLM). *1938. No. 37-38. P. 428.*
Steel and timber bandstand in the " Skansen " pleasure park.

Accessions to the Library

1938-1939—VIII

Lists of all books, pamphlets, drawings and photographs presented to or purchased by the Library are published periodically. It is suggested that members who wish to be in close touch with the development of the Library should make a point of retaining these lists of reference.

Any notes which appear in the lists are published without prejudice to a further and more detailed criticism.

Books presented by publishers for review marked R.

Books purchased marked P.

* *Books of which there is at least one copy in the Loan Library*

ARCHITECTURE

Theory

GLOAG (JOHN) 72.01.036.6 : 659.1
Word warfare. Some aspects of German propaganda and English liberty. [Including use of architecture.]
7½″. 154 pp. Lond. : Nicholson and Watson. 1939. 3s. 6d. R.

History

RICHMOND (*Sir* WILLIAM B.) 72.03 (45 A)
Assisi. Impressions of half a century.
11½″ × 9″. Lond. 1919.

RUSKIN (JOHN) S.R. 72.03 (45 V)
The Stones of Venice.
New ed. 3 vols. la. 8o. Lond. 1874.
—*Both presented by Mr. J. E. Yerbury* [*F.*].

JONES (CHESTER H.) box J1. 72.036.6 (42) : 92 J
72.034 (72) (46)
The Colonial architecture of Spain in Mexico. [Outline and bibliog. only.]
MS. exercise-book. 12¾″. [19—.]

Diary . . .—Report to Commonwealth Fund.
MS. & typescript. loose-leaf binder. 11″. 1927-28.
726.5 (72) (46)
The Ecclesiastical architecture of Spain in Mexico during the Vice-regal period. [Lecture.]
MS. loose-leaf binder. 9½″. [19—.]
72.01.036.6
Lecture—" Efficiency in architecture " . . .
typescript & MS. 10½″. [19—.]
72.036.6 (73)
McKim Mead and White. Notes from monograph. [Sketches.]
—American architecture references [bibliog.].
MS. loose-leaf binder. 11″. [19—.]

Notes on Mexican architecture for projected book. (Captions to selected photographs . . . , *and* Record of photographs, typescripts, *inserted*.)
MS. & typescript. loose-leaf binder. 11″. [19—.]

Santa Barbara, California, and the tradition of Spanish missions.
typescript. 11″. [19—.]
[Another copy. And other MSS.]
typescript & MS. loose-leaf binder. 11″. [19—.]
72.036.6 (42.1)
Something wrong with London.
typescript. 10½″. [19—.]
—*All presented by Mr. H. E. Jones.*

Professional Practice

MINISTRY OF HEALTH 72.08 : 34
Building byelaws. (Circular 1778.)
leaflet. 9¼″. Lond. 1939. R.

CHARTERED SURVEYORS' INSTITUTION
List of members . . . qualified as quantity surveyors.
(Mar.) 1938. R.

Building Types

(Civil)

ARCHITECTURAL REVIEW 725.7/8
*[Special number :] The Architecture of leisure. [By Donald Pilcher.] (Dec.)
14″. Lond. 1938. 5s. P. *To Loan Library.*

× MS.
HURST (R. W.) 725.822.93 + 725.81 : 785.1
The Stage. Its construction and equipment for specific purposes. [Including concert hall platforms.] (Thesis for Final Examination, Dec.)
typescript and *Ink D.* 13″. 1938.
Presented by the Author.

GUÉRINET (A.), *publ.* 725.91 (44 P)
L'Architecture et la sculpture [à l', *cover title*] Exposition [Universelle] de 1900.
S.R.
1re série : Les Palais [Grand et Petit] des Beaux-Arts.
3e série : [various buildings].
2 pfos. fo. Paris. [190—.]
Presented by Mr. Harry Wenyon [*F.*].

(Religious)

726.5 (06) (05)
ECCLESIOLOGICAL (*formerly* ST. PAUL'S ECCLESIOLOGICAL) SOCIETY
Transactions.
Vol. X.—Part 4. 1938. R. (2).
Continuing St. PAUL's E— S— Transactions

(Educational)

METROPOLITAN WATER BOARD 727.5 [696.11 : 5.0015 (42.12)
Opening of new laboratories at the New River Head, Clerkenwell, *etc.*
10¾″. var. pp. + pls. + plans. Lond. 1938. R.
With leaflet. New laboratories . . . Opening . . ., 8¼″, *inserted.*

× MS.
KENCHINGTON (MARGARET F.) 727.6/7
Vital museums. Considerations *etc.* (Thesis for Final Examination, Dec.)
typescript, *Ink D., and Ph.* 13″. 1938.
Presented by the Author.

SMITH (R. D. HILTON) 727.8 : 696.9
*Public library lighting. (" The Librarian " series of practical manuals, xiii.)
Vol. ii : Artificial lighting. Part i : General principles and planning.
7½″. Gravesend : Philip. 1938. 7s. R. & P.

(Domestic)

[ARCHITECTURAL] DESIGN AND CONSTRUCTION 728
* [Special] Reference supplement : Houses and domestic buildings. (Aug.)
13¼″. Lond. 1937. *To Loan Library.*

TIMBER DEVELOPMENT ASSOCIATION 728 : 694.1
Building a timber house.
pam. 9½″. Lond. [1939.] R.
728.1 (06)
NATIONAL HOUSING AND TOWN PLANNING COUNCIL
[Pamphlets (11).] (Nov.)
13″. 1938. R.

MINISTRY OF HEALTH 728.1 : 711.585
Housing, England. Form of orders and notices.——The H— Act (F— of O— and N—) Amendment Regulations, 1939, *etc.* [Demolition order in respect of a house.]
leaflet. 9¾″. Lond. : H.M.S.O. 1939. 1d. R.

Housing. House production, slum clearance, etc. England and Wales. Position at 30th Sept., 1938.
1939. 4d. R.

ARCHITECTS' JOURNAL 728.1 : 711.585 (42.1)
* [Special number : Rehousing and replanning of London.] (17 May.)
12″. Lond. 1934. *To Loan Library.*

MINISTRY OF HEALTH 728.1 : 728.68]33
Housing Acts, 1935 and 1936, Housing (Rural Workers) Act, and Small Dwellings Acquisitions Acts. Interest on loans, etc. (Circular 1766.)
leaflet. 9¾″. Lond. : H.M.S.O. 1939. 1d. R.

ARCHITECTS' JOURNAL 728.23
* [Special number : Flats.] (2 May.)
12″. Lond. 1935. *To Loan Library.*
× MS.

JONES (A. H. DENNIS) 728.54+725.75
Youth hostels and holiday centres. (Thesis for Final Examination, Dec.)
typescript and *Repr. of D.* 10¼″. 1938.
Presented by the Author.

SMITH (H. CLIFFORD) 728.84 (42.19 T) MH
Marble Hill House, Twickenham, Middlesex. (Society for the Protection of Ancient Buildings : Georgian Group.)
pam. 8½″. Lond. 1939. 6d.
Presented by the Author, M.A., F.S.A.

CRAFTS, FITTINGS

BRIDAHAM (L. B.) 729.595 (44)+729.53 (44)
Gargoyles, chimeres, and the grotesque in French Gothic sculpture.
12½″. xvi+208 pp. New York : Archl. Bk. Pubg. Co. [1930.] (£1 10s.) P. (remndd.).

ALLIED ARTS AND ARCHÆOLOGY

STUDIO, *publ.*
*Decorative art. 1939. The S— Year book. C. G. Holme, ed.
1939. 10s. 6d. R. & P.
Inf. file

NEW YORK : MUSEUM OF MODERN ART 7.036.6 (064)
Bauhaus exhibition. (Bulletin, No. 6, Dec.)
pam. 9¼″. New York. 1938. R.

VINCI (LEONARDO DA) 75.034 (45) : 92 L
The Notebooks of Leonardo da Vinci. Arranged, rendered into English and introduced by Edward MacCurdy.
Reprint. 2 vols. 10″. Lond. : Cape. 1938.
£3 3s. the 2. R.

902.6 (42.71/72) (06) (05)
LANCASHIRE AND CHESHIRE ANTIQUARIAN SOCIETY
Transactions. Vol. lii—. 1937.
8½″. 1938. R.

YORKSHIRE ARCHÆOLOGICAL SOCIETY
Y— A— Journal. Vol. xxxiv, second pt. : Pt. 134. [On 1937-38.]
19[3]9. R.

SOCIÉTÉ FRANÇAISE D'ARCHÉOLOGIE
Congrès archéologique de France. Ce session . . à Figeac, Cahors et Rodez en 1937.
1938. R.

BUILDING SCIENCE

SPECIFICATION, *annual*
——. 1939. F. R. S. Yorke, ed.
1939. 10s. 6d. P.

MATERIALS
691.11

UNITED STATES : DEPARTMENT OF AGRICULTURE—FOREST PRODUCTS LABORATORY
* Wood handbook. Basic information *etc.*
9¼″. Washington. 1935.
Presented by the Department. To Loan Library.
Already in Reference Library.

BRITISH STANDARDS INSTITUTION 69 (083.74)
British standard specifications, *cont.* :
691.11 (083.72)
No. 565. B— s— terms and definitions applicable to hardwoods and softwoods.
Revised ed. 1938. 2s. R.

691.113.13
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH : FOREST PRODUCTS RESEARCH
Principal decays of softwoods used in Great Britain. K. St. G. Cartwright and W. P. K. Findlay.
9½″. Lond. : H.M.S.O. 1938 [1939]. 2s. 6d. R.
Inf. file
691.161

NATURAL ASPHALTE MINE-OWNERS' AND MANUFACTURERS' COUNCIL
[Pamphlets.] (Nos. 1—.)
11″. Lond. [1939—.] R.

BRITISH STANDARDS INSTITUTION 69 (083.74)
British standard specifications, *cont.* :
691.322
No. 812. B— s— methods for the sampling and testing of mineral aggregates, sands and fillers.
1938. 3s. 6d. R.

CONSTRUCTION

HALE (R. S.) 693.54 : 621.791.5
Welded steel construction. *&c.*
8¾″. xi+170 pp. Lond. : Pitman. 1939. 12s. 6d. P.

SANITARY SCIENCE AND EQUIPMENT, PROOFING
696/697

FLETCHER (BANISTER F., *afterwards Sir* BANISTER) *and* FLETCHER (H. PHILLIPS)
Architectural hygiene *&c.*
7th ed. 7¼″. xii+351 pp.+2 folding pls. Lond. : Pitman. 1939. 12s. 6d. P.

BRITISH STANDARDS INSTITUTION 69 (083.74)
British standard specifications, *cont.* :
696.6.068.348
No. 815 . . . for under-floor non-metallic ducts for electric services with fittings.
1938. 2s. R.

LINGARD (H.) 696.93 : 728
Illumination problems in domestic architecture. (Architects' Conferences. [Joint Committee of Architects and] Electric Lamp Manufacturers' Assn.)
dupl. typescript. 13¼″. 1939. R.

WILSON (G. H.) 696.95
The Scientific and practical design of lighting equipment. (Architects' Conferences. [Joint Committee of Architects and] E.L.M.A.)
dupl. typescript. 13″. 1939. R.

COAL UTILISATION COUNCIL 697 : 728
Technical bulletins :
No. 9. Heating efficiency in the home. By C— U— C— and the Combustion Appliance Makers' Association (Solid Fuel).
Revised ed. pam. 8″. Lond. 1939. R.

BRITISH STANDARDS INSTITUTION 69 (083.74)
British standard specifications, *cont.* :
698.7
No. 810. . . . for plain linoleum and cork carpet.
1938. 2s. R.

LONDON COUNTY COUNCIL 699.815
Means of escape in case of fire. Principles upon which requirements are based.
Revised ed. 13″. Lond. 1938 (1939). R.

PRITCHARD (H. L.) 699.895
A.R.P. and high explosive.
7¼″. 52 pp. + pls., some folding. Lond. : Duckworth. 1938. 1s. P.

APPLIED SCIENCE (GENERAL)

WOLF (A.) 6(09)
* A History of science, technology, and philosophy in the eighteenth century.
9¾″.Lond. : Geo. Allen. 1938. R. *To Loan Library.*

BERNAL (J. D.) 6 : 3
The Social function of science.
8¾″. xvii + 482 pp. Lond. : Routledge. 1939. 12s. 6d. R.

TOPOGRAPHY

HEADLAM (*Sir* CUTHBERT), *editor* 91 (42.81/85)
The Three northern counties of England. [By J. E. Hull and others.]
9¾″. xii+343 pp.+pls. Gateshead upon Tyne : Northumbd. Press. [1939.] 6s. R.

OLIPHANT (*Mrs.* [M. O. W.]) 91 (45 R)
The makers of modern Rome.
9″. Lond. 1895.

OKEY (T.) 91 (45 V)
Venice and its story. Nelly Erichsen, W. K. Hinchliff, and O. F. M. Ward, illus.
[4th ed.] 8¾″. Lond. 1930.

OLIPHANT (*Mrs.* [M. O. W.]) 91 (56.94 J)
Jerusalem. Its history and hope. Engravings from drawings by Hamilton Aidē and phots. by F. M. Good.
8½″. Lond. 1891.

WEIGALL (ARTHUR) 91 (62)
Tutankhamen and other essays.
8¾″. Lond. [1924.]
—*All presented by Mr. J. E. Yerbury* [*F.*].

TOWN AND COUNTRY PLANNING, GARDENS, RURAL PRESERVATION

MINISTRY OF HEALTH 711 : 34
Town and Country Planning Act. Summary of provisions. (Summary referred to in Circular 1305.)
pam. 9¾″. Lond. : H.M.S.O. 1933. 4d.

HOWARD (EBENEZER) 711.417
Garden cities of to-morrow. (3rd ed. of To-morrow : a peaceful path to real reform.) (Foreword, 1922, *inserted.*)
7¼″. 167 pp.+pls. Lond. : Swan Sonnenschein. 1902 (1922). 6s. P.

ARCHITECTS' JOURNAL 711.554
* [Special number :] Trading estates. (20 May.)
12″. Lond. 1937. *To Loan Library.*

711.585 (42.1)
* [Special number : Slums—London.] (26 Oct.)
12″. Lond. 1933. *To Loan Library.*

711.585 : 728.68
CENTRAL HOUSING ADVISORY COMMITTEE : DEMOLITION PROCEDURE SUB-COMMITTEE
The Demolition of individual unfit houses in rural areas.
pam. 9¾″. Lond. : H.M.S.O. 1939. 4d. R.

MINISTRY OF HEALTH 711.585 : 728.68
Housing Act, 1936. Demolition of individual unfit houses in rural areas. (Circular No. 1762.)
pam. 9¾″. Lond. : H.M.S.O. 1939. 1d. R.

R.I.B.A. 711.7 (064)
[Exhibitions.] Road architecture.
9¾″. Lond. 1939.

TUNNARD (CHRISTOPHER) 712
Gardens in the modern landscape.
9¾″. 188 pp. Lond. : Archl. Press. 1938. 15s. R.

C.P.R.E. 719 (063)
Report of the (11th) national conference for the preservation of the countryside, *etc.* (Suppt. to Report, *etc*)
9½″. Lond. 1938. R.

BIBLIOGRAPHY, REFERENCE WORKS

ART INDEX 05 : 016
——.
A Cumulative author and subject index *&c.* Oct. 1935—Sept. 1938.
10″. New York : H. W. Wilson. 1939. (£2 10s. 9d.) P. (by subscrn.).
P.P. room, by P.S.I.

SCIENCE LIBRARY 016 : 05
Hand-list of short titles of current periodicals in the S— L—. S. C. Bradford, ed.
5th ed. Part i : Alphabetical.
10½″. Lond. : H.M.S.O. 1938. 9s. P.

CENTURY DICTIONARY AND CYCLOPÆDIA 03 [91+92
The ——. Vol. ix : The Century cyclopædia of names . . . in geography, biography, mythology, *&c.* B. E. Smith, ed.
4o. New York. [1899.]
Presented by Mr. Harry Wenyon [*F.*].

DRAWINGS AND PHOTOGRAPHS

JONES (CHESTER H.) *and others, phot.*
Mexico : Spanish colonial architecture.
Phot. (*prints and negatives*). n.d.
——. *Lantern slides.* n.d.
—*Presented by Mr. H. E. Jones.*

TESTA (PIETRO)
School of arts and sciences [figure composition]. (Copy.)
Sepia D. [16—.]

MARIANI (GIACOMO)
[Classical composition.]
Monochrome D. 1712.

PANNINI (G. P.) (?)
Rome : S. Pietro. Int.
Water-colour D. (? study for oil). [17—.]

PORTRAIT
Wren (*Sir* Christopher). (Full-length.) Ed. Orme, publ.
Lithograph. 1815.

CONEY (JOHN) *draughtsman*
Amiens : cathedral. W. front. *Etching.* [18—.]
Antwerp : cathedral. W. front. *Pencil D.* 1822.
—*All presented by Mr. P. J. Westwood* [*F.*].

WRIGHT (STEPHEN) (?)
Nuthall Temple [country house], near Nottingham. Elev.
Ink D. 1757.
With extract (Country Life), 28 Apl. 1923.

HALLETT *and* NEWMAN, *archts.*
Church : design [early Gothic Revival]. W. elev.
Water-colour D. [18—

DESIGNS
Church [early Gothic Revival]. Ext. from S.W.
Water-colour D. [18—.]
House : country. View.
Pencil D. [18—.]
——. (For A. C. Grant.) Vestibule : int. [early Gothic Revival].
Mono. D. [18—.]
Design for College (?), possibly Downing, Cambridge. View.
Water-colour D. [18—.]
Folding doors. Working drawing. *Coloured D.* [18—.]
Mural tablet. *Mono. D.* [17—/18—.]

CANTERBURY : HOUSE
—— —— (timber-framed). Sketch. *Pencil D.* [18—.]
—*All presented by Mr. Raymond Mander.*

Correspondence

AIR RAID DEFENCE LEAGUE

from Sir Reginald Blomfield, R.A.

Fielden House (Room 34),
10 Great College Street, S.W.1

To the Editor, JOURNAL R.I.B.A. *13.3.39*

SIR,—Civilian defence against air attack is at last getting the public attention it merits, and I have been asked to bring it to the attention of architects, who are well qualified to help with practical suggestions.

An intensive effort is being made to secure as members all those who feel the extreme urgency of our present situation and, particularly, all A.R.P. workers and air raid wardens.

The Air Raid Defence League is made up of people of all parties and sections of opinion. It will co-operate with the Government where it can be useful, and will offer constructive criticism where necessary. It will offer an opportunity for those members of the public such as A.R.P. wardens, doctors, and all those with first hand experience of A.R.P. work to suggest improvements. Through its technical committees, which include many outstanding experts (and here architects can be very useful), the League will sift and examine such suggestions and bring them to the attention of the authorities. It will, in a monthly magazine, collect news and views of interest to A.R.P. workers from this and other countries. Reports from the technical committees, which have been formed to develop the League's policy on evacuation, shelters, medical, hospital and combatant measures (interceptors, anti-aircraft guns, etc.), food and transport, will be published in the form of Bulletins to the members of the League.

The League invites the general public to membership and, while full membership entails a subscription of 6s., the supporters' membership fee is 1s. and, of course, all donations are welcome. Everyone, therefore, has an opportunity of helping in a movement which may make a decisive contribution to our national safety when it has the best chance of success, and I hope that any of your readers who are interested in the work and objects of the League will write for information and application forms to the Secretary, Air Raid Defence League, Fielden House, 10 Great College Street, Westminster, London, S.W.1.

Yours faithfully,

REGINALD BLOMFIELD

COTTAGES FOR RURAL WORKERS

from Sir George Courthope

The Lands Improvement Company,
58 Victoria Street, London, S.W.1

13.3.39

To the Editor, JOURNAL R.I.B.A.

SIR,—The shortage of houses for rural workers is one of the gravest problems agriculture is facing to-day. Moreover, it is a problem with far-reaching reactions on the economic condition of the country as a whole. The lack of accommodation is playing a large part in driving agricultural labourers to the more convenient houses of the towns, and even the most short-sighted townsman cannot but witness with alarm the rapid decrease which is now taking place in the rural population.

The Government acknowledged the urgency of the problem last year by passing the Housing (Financial Provisions) Act and extending the term of operation of the Housing (Rural Workers) Acts until 1942. Many landowners, however, are deterred from taking advantage of the grants available under these Acts by the capital expenditure required. The Lands Improvement Company is prepared to advance the total cost in the first place (the subsidy can be allocated towards repayment of the rentcharge created) : and the balance of the cost in the second place.*

Beyond complying with local building regulations and the requirements of the Ministry of Agriculture and Fisheries, who administer the Companies Acts, the landowner and his architect are entirely free to choose whatever design they please, and to make their own arrangements for carrying it out.

The term of the loan is determined by the Ministry according to the durability of the scheme—with a maximum repayment period of forty years. The rate of interest remains in force during the whole of this period, and the money cannot be called in. Loans can also be made where there are subsisting mortgages.

There must be many landowners who would like to take advantage of the company's facilities and the Government grants in connection with rural housing schemes, if they only knew about them, and, indeed, it might well be the deciding factor in influencing them to build or rebuild their cottages. Architects must have many opportunities of discussing these matters with landowners and of pointing out the advantages to all concerned in preserving not only the beauty of the present countryside but in planning one to delight future generations. Dilapidated exteriors are not beautiful nor are overcrowded and insanitary interiors.

In conclusion, it is emphasised that the rural housing problem can only be solved by national effort and that the architectural profession can do, perhaps, more than any other to help landowners to remedy the present serious state of affairs.

I am, Sir, Your obedient Servant,

GEORGE COURTHOPE (Chairman)

HOUSING IN PADDINGTON

4 Stour Avenue,
Norwood Green,
Southall, Middx.

11.3.39

To the Editor, JOURNAL R.I.B.A.

DEAR SIR,—I should like to express my complete agreement with the views of Mr. R. D. Manning, as set out in his letter in the JOURNAL of 6 March.

I have not the pleasure of the acquaintance of the architects in the Paddington office, but there is no reason to believe that they are any less competent than any other chartered architects if given a free hand, and it is the Institute's duty to safeguard the professional status of all its members, whether in private practice or as so-called "architectural assistants" in official employment.

On the subject of experience, surely there is no justification for suggesting that any private architect can have more "specialist experience of working-class housing" than architects regularly employed by a local authority.

If official architects had the support they have a right to expect from the Institute, their status would be considerably higher than it is to-day.

Yours faithfully,

C. W. VENTON [*L.*]

* The Lands Improvement Company publish a descriptive leaflet of their schemes which can be had on request.

Obituaries

ARTHUR KEEN [*Ret. F.*]

Sir Banister Fletcher (Past President) writes:

I heard with great regret on my return from India of the death of my old friend Arthur Keen, for whom I have always retained the greatest affection. I first met Keen many years ago when I went into the office of Colonel (afterwards Sir Robert) Edis, [*F.*], in Fitzroy Square. Keen was the managing assistant and had, I think, succeeded E. J. May [*F.*], in that position. I took to Keen immediately and during my stay in Edis's office I learnt a great deal from him, for he was always ready to help the younger assistants and pupils, and discuss any problem about the work in hand.

Keen was a lovable personality and I remember how he used to speak with awe of his old master Norman Shaw and also of Lethaby, who was in Shaw's office, and a great personality.

Keen was architect of many pleasing buildings and took the greatest pains with them down to the smallest detail.

In after years I met him often at the R.I.B.A. while he was Hon. Secretary, and on the Board of Architectural Education, and particularly on the Thames Bridge Conference, matters which seemed to occupy all his spare leisure.

Keen was much upset at one or two incidents during the Charing Cross Bridge controversy and came to my office when I was President and placed his resignation in my hands. I refused to accept it and persuaded Keen to carry on with the good work which he was doing and I think he felt pleased that his work was appreciated by all. His R.I.B.A. labours would alone ensure for him the affection of all its members, but in addition there was something so simple, so sympathetic, so true and so sincere about his lovable character that I wish to place on record the sadness that all who knew him must feel at his passing.

GEORGE ELKINGTON [*F.*]

We regret to record the death at the age of 87 of Mr. George Elkington, President of the National Building Society.

Mr. Elkington was the son of George Elkington, an architect and surveyor, practising in the City of London. After King's College School, he began his architectural training in 1869 at the Ecole des Beaux Arts, Paris, but after two years went to the architectural school at the Royal Academy. Subsequently he worked at University College, London, under Professor T. Hayter Lewis, where he won the Donaldson Medal in 1870.

On the completion of his training he entered into partnership with his father. Among the buildings for which they were responsible are the town halls of Bermondsey and Lewisham, public baths at Rotherhithe and Richmond, the Coburn School for Girls, Bow Road, the London Leather Market, the Leathersellers' Company's Technical College, and the Anerley Congregational Church. Elkington was surveyor for the Worshipful Company of Coopers over a period of 30 years, and also acted for a considerable time as surveyor, under the London Building Act, for Penge, until that locality ceased to be part of the metropolitan area.

The greatest activity of Mr. Elkington's life was the development and expansion of the National Building Society, with which his family has been associated since the Society's foundation in 1849. He was chairman for 33 years, retiring in 1935 to become President. His work for the Society will be continued by two of his sons, Mr. G. L. Elkington [*F.*] and Mr. H. B. Elkington [*F.*], both of whom continue the practice.

H. A. CHAPMAN [*Ret. F.*]

We regret to record the death on 8 January of Mr. Henry Ascough Chapman.

He was born in 1873 and received his training in the office of Mr. J. C. Petch, of Scarborough. In 1900 he began to practise on his own account in Scarborough and Leeds. He executed municipal work, including Public Baths, Free Libraries and a Fire Station; also private houses in Yorkshire and at Epsom, Surrey, and the John Horne Homes, Scarborough. In 1913 he was appointed a Housing Inspector of the Ministry of Health by Mr. John Burns, and he continued in this position until his retirement in 1934.

GEORGE MATTOCK, F.S.I. [*L.*]

We regret to record the death on 1 January of Mr. George Mattock of Halifax.

Mr. Mattock, who was born in 1877, began his training by working for three years in the office of a building contractor. For five years he was a pupil of Mr. Joseph F. Walsh [*F.*], whose assistant he afterwards was, until 1915, when he was commissioned in the Royal Engineers, serving in France and later in Italy, rising to the rank of captain. After the War, from 1920 to 1936, he was in partnership with Mr. J. F. Walsh and from 1937 until his death with him and Mr. W. H. Wilkinson [*L.*].

Among the buildings for which Mr. Mattock was responsible are additions to the Royal Halifax Infirmary; several large textile factories in the West Riding; several elementary and secondary schools and three churches; besides a good deal of domestic work.

Mr Mattock was Advisory Valuer to the Halifax County Borough Assessment Committee. He was senior Vice-President of the West Yorks Society of Architects.

The practice is being continued by Mr. Joseph F. Walsh and Mr. W. H. Wilkinson.

W. OSBORNE KEATS [*L.*]

Mr. Keats, whose death occurred on 12 November 1938, was born in 1872. He was articled to his father, Mr. J. H. Keats, of Plymouth. In 1902 Mr. Keats worked for the War Office, first in Plymouth and later for three years in Singapore. He then joined the staff of the Office of Works, Liberia, and after a period in Shanghai, he was appointed surveyor to the Asiatic Petroleum Co. there, until 1932, when he retired. Mr. Keats' chief work was a semi-open-air church for lepers at Koh Klang, Siam. He was the author of *Notes on Japanese House Construction and Materials*.

C. J. MORREAU [*A.*]

We regret to record the death of Mr. C. J. Morreau [*A.*]. A memoir will appear in the next number of the JOURNAL.

Notes

R.I.B.A. APPEAL

Owing to pressure on our space, it is not possible to publish a further list of contributions to the appeal; but it will be published in the JOURNAL for 3 April.

R.I.B.A. DRAMATIC SOCIETY

The next Play Reading of the R.I.B.A. Dramatic Society will take place at 8 o'clock on Monday, 3 April, at 9 Alexandra Mansions, Beaufort Road, S.W.3, by kind invitation of Miss Marjorie Boyd. The play to be read is "The Master Builder," by Ibsen.

All members of the Institute are welcome to take part, but they should first get in touch with the Hon. Secretary of the Dramatic Society, c/o the R.I.B.A.

THE TYLERS AND BRICKLAYERS COMPANY GOLD MEDAL
LONDON BRICK BUILDING

The fifth annual award of the gold medal to be presented by the above company to the architect of the building judged to have the most merit within the R.I.B.A. radius of eight miles from Charing Cross, will be announced in June 1939.

The building is to be one of brick and tile, but buildings having a small amount of stone or other dressings will not necessarily be precluded. Preference will be given to buildings the principal elevation of which is constructed of British clay bricks. The buildings must have been completed within the last three years ending 31 December 1938.

Any practising architect is at liberty to nominate any buildings including his own for the consideration of the jury, no special form is necessary and the following information should be given: Name, situation, and architect of building, signed by the nominator.

Nominations must be sent to the Clerk of the Tylers and Bricklayers Company, 6 Bedford Row, W.C.1, not later than 1 May next.

SIR JOHN SOANE MUSEUM

Sir John Soane's House and Museum, 13 Lincoln's Inn Fields, reopened on Wednesday, 1 March. It is open free to the public from 10.30 a.m. to 5 p.m. on Tuesdays, Wednesdays, Thursdays and Fridays until the end of August.

MEMBERSHIP LISTS

ELECTION: 6 MARCH 1939

In accordance with the terms of Byelaws 10 and 11, the following candidates for membership were elected at the Council Meeting held on Monday, 6 March 1939.

AS FELLOWS (27)

CLARKSON: GEORGE FLINT [*A.* 1921].
COOPER: WILLIAM REGINALD ROYDON [*A.* 1926], Yeovil.
MOTTRAM: ALFRED HUGH [*A.* 1911], Edinburgh.
OLIVER: BRUCE WILLIAM [*A.* 1907], Barnstaple.
SHERREN: BRIAN COURTENAY.
TWIGG: WILLIAM LESLIE [*A.* 1930].

And the following Licentiates who have passed the qualifying Examination:—

ANDERSON: JAMES HAMILTON, F.S.I.
AREND: WILLIAM HENRY.
BELL: CAPTAIN ERIC SINCLAIR, Stirling.
BEVERIDGE: THOMAS JOHNSTON, Glasgow.
BOOTH: GERALD BOUSFIELD.
BURNETT: CHARLES JOHN.
CHARITY: FREDERICK WILLIAM.
FOX: ALBERT ROBERT.
FRENCH: ALEC FRANK, Bristol.
GALE: ERIC LESLIE.
HARVEY: FREDERICK WILLIAM, Newcastle-on-Tyne.
HATTRELL: WALTER STANLEY, Coventry.
LUTYENS: ROBERT.
ROBERTS: ARTHUR STANLEY.
STANHAM: ALAN FRANCIS GORDON.
STANHAM: COLONEL HUGH GORDON.
WOODLAND: WILLIAM ALBERT.

And the following Licentiates who are qualified under Section IV, Clause 4 (c) (ii) of the Supplemental Charter of 1925:—

CARTER: JAMES, Windermere.
DAWSON: HENRY HOLMES.
JONES: WILLIAM ALBAN, Leeds.
MEWTON: JOHN RICHARD, Wirral.

AS ASSOCIATES (91)

ANSELL: ELWYN LESLIE [Special Final Examination], Chichester.
BAKER: JAMES HERBERT ALFRED [Special Final Examination], Leigh-on-Sea.
BALDWIN: EDWARD THOMAS [Final], Coventry.
BILLING: JAMES MILNE MONRO [Final], Glasgow.
BRIGHTON: ALLAN GEORGE [Passed five years' course at the Architectural Association. Exempted from Final Examination].
BROADWATER: HERBERT JAMES WILLIAM [Final].
BROOKS: RAYMOND SAMUEL [Final], Brighton.
BUCK: BERNARD [Final].
CAHILL: EDWARD ANTHONY [Final], Manchester.
CANNING: FELIX [Passed five years' course at the Architectural Association. Exempted from Final Examination].
COWAN: RONALD [Final], Stockton-on-Tees.
CREASY: JAMES WILLIAM [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination].
DAVIES: RICHARD LLEWELLYN [Passed five years' course at the Architectural Association. Exempted from Final Examination].
DAVIS: ROBERT VICTOR [Final], Rugby.
DAVISON: JOHN [Final], Sunderland.
DAVISON: NORMAN FRANCIS [Final].
DAY: FRANK [Final].
DOLBEY: GEORGE WILLIAM [Final].
DOOTSON: HARRY [Final], Stockport.
DOWSEY: ALBERT EDWARD [Final], Northallerton.
EAST: THOMAS WILLIAM [Final].

EVANS : WILLIAM HUBERT [Final], Upminster.
FAIRWEATHER : GEOFFREY HUBERT [Final].
FISK : SIDNEY HUBERT [Final].
FITCH : CYRIL HENRY [Special Final Examination].
FORD : HARRY LESLIE JAMES [Final], Brighton.
FOWLER : CHARLES HILL [Final], Bournemouth.
GALLOWAY : NORMAN REGINALD [Special Final Examination], Leigh, Lancs.
GLOVER : ARCHIBALD WILLIAM [Special Final Examination], Wakefield.
GRAHAM : WILLIAM KENNETH [Final], Swansea.
HALL : HARRY DESMOND [Final], High Wycombe.
HAYES : CONRAD [Final], Bristol.
HELME : LEONARD DOUGLAS [Special Final Examination], Chester.
HICKMAN : HOWARD THOMAS [Final], Leicester.
HITCH : HAROLD JOHN [Final].
HOBDAY : HAROLD HERBERT JORDAIN [Final].
HOBKINSON : GEORGE HENRY [Final], Lincoln.
HOLDEN : JOHN CHARLES [Final], Preston.
JONES : AUBREY CHAVE [Final], Nottingham.
JONES : A. H. DENNIS [Final], Gloucester.
JONES : ROY MORRIS [Final], Leicester.
JUDSON : HARRY [Final].
KILNER : LAWRENCE [Final], Huddersfield.
LEARNER : JOHN FRANCIS [Special Final Examination].
LENNOX : GAVIN STRATHEARN ALLAN, B.Sc. [Passed five years' course at the Glasgow School of Architecture. Exempted from Final Examination], Chryston, Lanarkshire.
LEWIS : JOHN ANTONY [Final].
LYNCH : JOSEPH TERENCE [Special Final Examination], Nottingham.
MANNING : OLIVER DAVID GEORGE [Final], Portsmouth.
MATHEWS : EDMUND DOUGLAS JEFFERISS, P.A.S.I. [Special Final Examination].
MELDRUM : ROBERT GILLESPIE [Special Final Examination].
MIDDLETON : GEORGE NORMAN [Passed five years' course at the Aberdeen School of Architecture, Robert Gordon's Technical College. Exempted from Final Examination].
MUIR : HAROLD JOHN [Special Final Examination].
MURRAY : CYRIL AUBREY [Special Final Examination], Sunderland.
NORTH : LIONEL CHARLES [Final].
OWEN : GORDON FREDERICK [Final], Leicester.
PACE : GEORGE GAZE [Final].
PERRYER : HENRY RICHARD DOUGLAS [Final].
PLATTS : JOSEPH NORMAN HENRY [Special Final Examination], Burton-upon-Trent.
POTTER : FRED [Final].
POWELL : HERBERT JOHN [Final], Hereford.
RHODES : GEORGE WILLIAM [Special Final Examination].
RIDER : NORMAN TERENCE [Final], Birmingham.
RILEY : HARRY STANLEY [Final], Manchester.
ROSS : ERIC LOUIS GENGE [Special Final Examination], Southampton.
ROSSINGTON : LESLIE [Final], Blackpool.
SANDERS : WILLIAM HAMILTON [Passed five years' course at the Glasgow School of Architecture. Exempted from Final Examination], Glasgow.
SAUNDERS : KENNETH HERBERT [Final], Portsmouth.
SCOTT : WILLIAM JOHN [Final], Reading.
SHAW : ROBERT HENRY, B.Arch.(L'pool), A.M.T.P.I. [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination].
SMITH : GEOFFREY JOHN STUPPLES [Special Final Examination], Bexhill-on-Sea.
SMITH : JACK [Final], Dewsbury.
SOMERVILLE : JAMES LEES [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], Manchester.
STAMP : DAVID [Final].
STUPPLES : JOHN EDWARD [Passed five years' course at the Architectural Association. [Exempted from Final Examination].
TAFFENDER : WILLIAM CLIFFORD [Final], Bournemouth.
TARN : WILLIAM [Special Final Examination], Chester.
THOMPSON : ERIC HAMILTON [Final], Salford.
THOMSON : WALTER ROY [Final].
THORP : CHARLES RICHARD [Final], York.
TINTO : PETER [Final], Glasgow.
TOWNSEND : CYRIL ARTHUR [Final].
TOY : RICHARD HORTON [Passed five years' course at the School of Architecture, University College, Auckland, New Zealand. Exempted from Final Examination].
VOWELS : CYRIL EDGAR [Final], Gloucester.
WATKINS : FREDERICK JOHN BAYMAN [Special Final Examination], Birmingham.
WATT : GEORGE [Special Final Examination].
WEBSTER : DOUGLAS ALAN STUART, M.A., Dip.Arch.(Cantab.) [Final].
WEBSTER : LEWIS EDWARD [Final].
WESLEY : HENRY WELLESLEY [Final].
WHEELDON : CYRIL DENIS [Final], Nottingham.
WITHAM : WILLIAM JAMES [Final], Burton-on-Trent.
WRIGHT : ROLAND KEITH [Final].

AS LICENTIATES (9)

BOWEN : WILLIAM JOHN, Colwyn Bay.
BYRNE : PETER AUGUSTINE, Wareham, Dorset.
DAWES : STANLEY.
FYFFE : DOUGLAS JAMES.
JONES : LAUNCELOT CYRIL CLARKE.
MILLS : SYDNEY, Oldham.
OWEN : TREFOR EYTON.
THOMPSON : ALAN FREDERICK.
THOMSON : ERNEST CARL, Leeds.

ELECTION: 3 APRIL 1939

In accordance with the terms of Byelaws 10 and 11, an election of candidates for membership will take place at the Council Meeting to be held on Monday, 3 April 1939. The names and addresses of the candidates, with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Byelaws are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary R.I.B.A. not later than Thursday, 30 March 1939.

AS FELLOWS (54)

BEECH : FREDERICK WILLIAM [*A.* 1919], 16 Southernhay West, Exeter ; N.P. Bank Chambers, Exmouth ; "Byeways," Streatham Rise, Exeter. Proposed by John Bennett, H. V. de C. Hague and Francis Lorne.

BUTLIN : FREDERICK GEORGE MONTAGUE [*A.* 1921], 17 Southampton Place, W.C.1 ; Barrsbrook, Guildford Road, Chertsey. Proposed by Alner W. Hall, Professor A. E. Richardson and John P. Bishop.

CASHMORE : FRANCIS MILTON [*A.* 1920], 2 Paul's Bakehouse Court, E.C.4 ; 70 Addison Way, N.W.11. Proposed by H. W. Horsley, F. Winton Newman and Henry V. Ashley.

CHANT : ARTHUR GUY [*A.* 1921], County Architect's Office, 5 Belmont, Shrewsbury ; Holly Bank, Berwick Road, Shrewsbury. Proposed by Herbert T. Buckland, W. A. Forsyth and Frank H. Shayler.

CHITTY : ANTHONY MERLOTT [*A.* 1933], 6 Cavendish Square, W.1 ; 66 Regent's Park Road, N.W.1. Proposed by P. J. Westwood, S. Rowland Pierce and G. A. Jellicoe.

CLARKE : WILLIAM THOMAS, F.S.I., A.M.T.P.I. [*A.* 1908], "Baltic Buildings," 9 Redcross Street, Liverpool ; "Longford," Neston Road, Burton in Wirral, Cheshire. Proposed by Harold A. Dod, T. Taliesin Rees and A. Ernest Shennan.

COGSWELL : VICTOR GORDON [*A.* 1922], Prudential Buildings, Portsmouth ; "The Gable," Grant Road, Farlington, Portsmouth. Proposed by J. W. Walmisley, Lt.-Col. R. F. Gutteridge and A. L. Roberts.

CURTIS : HERBERT LEWIS [*A.* 1920], 13 Crawford Street, W.1 ; 16 Chalcot Road, N.W.1. Proposed by H. S. Goodhart-Rendel, Douglas W. Rowntree and A. F. B. Anderson.

DE COLLEVILLE : HENRY [*A.* 1902], 48 Bedford Row, W.C.1 ; 19 Limes Avenue, N.12. Applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

FAIRHURST : PHILIP GARLAND, M.A. [*A.* 1925], Chancery Chambers, 55 Brown Street, Manchester 2 ; Tan-y-Rallt, Whitebarn Road, Alderley Edge. Proposed by Francis Jones, Isaac Taylor and C. Gustave Agate.

FARE : ARTHUR CECIL, R.W.A. [*A.* 1922], 4 & 5 Bridge Street, Bath ; 7 Belgrave Place, Clifton, Bristol. Proposed by C. F. W. Dening, B. F. G. Wakefield and Eustace H. Button.

FARRER : JOHN CAMPLIN [*A.* 1919], 7 & 8 Norfolk Street, Strand, W.C. ; County Oak Cottage, Crawley, Sussex. Proposed by Frederick G. A. Hall, Harold Baily and Lt.-Col. M. K. Matthews.

FILLMORE : CECIL ERNEST MILLARD [*A.* 1924], 8 Newhall Street, Birmingham 3 ; 270 High Street, West Bromwich ; "Gatehouse," 41 Dagger Lane, West Bromwich. Proposed by John B. Surman, H. G. Wicks and William T. Benslyn.

FISHER : WALTER ROBERT FITZGIBBON [*A.* 1927], 4 Ridgmount Street, W.C.1 ; 1 Wildwood Road, N.W.11. Proposed by H. St. John Harrison, John Murray Easton and C. H. James.

GREENFIELD : THOMAS [*A.* 1924], Newstead, Midhurst, Sussex. Proposed by E. Vincent Harris, A. Leonard Roberts and J. H. Forshaw.

HARVEY : FREDERICK MILTON, Assoc.M.Inst.C.E. [*A.* 1901], 3 Raymond Buildings, Gray's Inn, W.C.1 ; "Wivenhoe," 12 The Quadrangle, Welwyn Garden City, Herts. Proposed by Douglas Wood, Verner O. Rees and Leslie T. Moore.

HARWOOD : ARNOLD WILLIAM [*A.* 1919], 21 Suffolk Street, Pall Mall East, S.W.1 ; 26 Loom Lane, Radlett. Proposed by M. Eyre Walker, Clyde Young and Martin S. Briggs.

HOUSTON : JAMES, Dip.Arch. Glasgow [*A.* 1920], Bridgend House, Kilbirnie, Ayrshire ; Whitehurst, Kilbirnie, Ayrshire. Proposed by William J. Smith, T. Harold Hughes and David B. Hutton.

HOWCROFT : LT.-COL. GILBERT BURDETT, M.C., T.D., M.A. [A. 1918], Priory Buildings, Oldham ; Ridings, Greenfield, near Oldham. Proposed by Thomas Taylor, Francis Jones and J. Hubert Worthington.

JACKSON : BASIL HIPPISLEY [*A.* 1921], 6 Radnor Place, W.2. Applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

JOSEPH : ERNEST MARTIN, O.B.E. [*A.* 1903], 2 Paul's Bakehouse Court, Godliman Street, E.C.4 ; Frognal Grove, Hampstead Heath, N.W.3. Proposed by Sydney Tatchell, H. Austen Hall and Maxwell Ayrton.

KEY : WILLIAM DONALD, F.S.I. [*A.* 1918], 4 Palmer Street, Westminster, S.W.1 ; "Cardington," Hall Lane, Upminster, Essex. Proposed by Charles J. Cable, W. H. Robinson and Herbert J. Axten.

LLOYD : ALBERT PEREGRINE, M.C. [*A.* 1919], 71 Lincoln's Inn Fields, W.C.2 ; 37 Beechwood Avenue, N.3. Proposed by Herbert A. Welch, Sir Raymond Unwin and Sidney T. Hennell.

MACKEY : SAMUEL ARMSTRONG HURST [*A.* 1920], 2 Bold Street Chambers, Warrington ; Romavia Cottage, Tarporley Road, Appleton, Cheshire. Proposed by Lt.-Col. Ernest Gee, T. F. Shepheard and Kenmure Kinna.

MOLE : HERBERT WILLIAM [*A.* 1909], Hammersmith School of Building and Arts and Crafts, Lime Grove, W.12 ; 54 Emlyn Road, Stamford Brook, W.12. Proposed by H. L. Hicks, G. E. Charlewood and A. H. Moberly.

MORREY : PERCY, M.B.E. [*A.* 1920], New Oxford House, Bloomsbury Way, W.C.1 ; Sandy Ridge, 102 Bexley Road, Eltham, S.E.9. Proposed by James Macgregor, Professor R. A. Cordingley and Stanley C. Ramsey.

MURRAY : KEITH DAY PEARCE [*A.* 1921], 19 Russell Square, W.C.1 ; 5B Kensington Court, W.8. Proposed by Robert Atkinson, Maxwell Ayrton and C. H. James.

ROBINSON : THOMAS HENSON [*A.* 1904], 10 Paradise Square, Sheffield ; 303 Sharrow Head, Sheffield. Proposed by Wm. C. Fenton, H. B. S. Gibbs and Chas. B. Flockton.

RUNTON : CAPTAIN PERCY TOM, M.T.P.I. [*A.* 1907], District Bank Chambers, Bradford, Wharfeside, Ilkley. Proposed by Eric Morley and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

SCRIVEN : CHARLES [*A.* 1922], 17 Southampton Place, W.C.1 ; 3 Deansway, Finchley, N.2. Proposed by Alner W. Hall, G. Grey Wornum and Louis de Soissons.

TASKER : EDWARD CLOUGH [*A.* 1920], Harcourt Chambers, St. Nicholas Cliff, Scarborough, Yorks ; Creskeld, 218 Filey Road, Scarborough, Yorks. Proposed by Llewellyn Kitchen, G. Dudley Harbron and Professor S. D. Adshead.

TRUBSHAWE : WOLSTAN VYVYAN [*A.* 1928], 4 Ridgmount Street, W.C.1 ; "Little Shaws," West Wittering, Sussex. Proposed by H. St. John Harrison, John Murray Easton and C. H. James.

VALLIS : RONALD WILLIAM HARVEY, B.Arch. L'pool, [*A.* 1924] 6 North Parade, Frome, Somerset ; Welshmill Lodge, Frome. Proposed by Mowbray A. Green, E. Maxwell Fry and J. H. Forshaw.

WEEDON : HARRY WILLIAM [*A.* 1913] Phœnix Chambers, 84 Colmore Row, Birmingham ; Chantry Glade, Chantry Road, Moseley, Birmingham. Proposed by William T. Benslyn, Ernest C. Bewlay and John B. Surman.

WEST : JOHN ARCHIBALD [*A.* 1919], Council Offices, Burton Road, Carlton, Nottingham ; St. Olaves, Orlands Drive, Carlton. Proposed by Frank A. Broadhead, Albert J. Thraves and Charles H. Calvert.

WHITE : RAYMOND CHARLES [*A.* 1921], Brooke House, Market Square, Aylesbury ; Bierton Hill, Aylesbury. Applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

WHITE-COOPER : RUPERT CHARLES, M.C., B.A. [*A.* 1921], Amberley House, Norfolk Street, Strand, W.C.2 ; 38 Addison Avenue, W.11. Proposed by Professor A. E. Richardson, L. Stuart Stanley and Matthew J. Dawson.

WILSON : ALLEN WOODWARD [*A.* 1911], Cumbergate, Peterborough ; 196 Broadway, Peterborough. Proposed by Alan W. Ruddle, J. A. Fletcher and Thos. H. Longstaff.

WILSON : HERBERT JOHN [*A.* 1911], Cumbergate, Peterborough ; 99 Park Road, Peterborough. Proposed by Alan W. Ruddle, J. A. Fletcher and Thos. H. Longstaff.

And the following Licentiates who have passed the qualifying Examination :—

BLOUNT : WALTER STANLEY, 174 High Street, Acton, W.3 Tregellas, Harefield Road, Uxbridge, Middlesex. Proposed by W. B. Stedman, Gerald Shenstone and Stanley R. Miller.

BOWMAN : HAROLD, 10 Clegg Street, Oldham ; "Asenby," 5 Queens Road, Oldham. Proposed by Ernest Simister, Thos. J. Hill and J. A. Chisholm Taylor.

BRADLEY : STANLEY, Brazennose House, Brazennose Street, Manchester 2 ; 9 Crawford Avenue, Bolton, Lancs. Proposed by R. Hermon Crook, Ernest J. Pomeroy and Joseph Louis Hampson.

BRADLEY : WILLIAM, Brazennose House, 20 Brazennose Street, Manchester 2 ; 9 Crawford Avenue, Bolton, Lancs. Proposed by R. Hermon Crook, Ernest J. Pomeroy and Joseph Louis Hampson.

BROCKLEHURST : RICHARD GREAVES, 11 Crendon Street, High Wycombe, Bucks ; "Rowlee," Pretoria Road, High Wycombe. Proposed by E. A. L. Martyn, G. Langley Taylor and Herbert J. Stribling.

CABRÉ : JOSEPH WATSON, "Sefton," Kimberley Drive, Great Crosby, Liverpool 23. Proposed by Professor Lionel B. Budden, T. Taliesin Rees and O. D. Black.

DAVIES : JOHN GORDON, Messrs. Reckitt & Colman, Carrow Works, Norwich ; 4 Cecil Road, Norwich. Proposed by A. G. Berry, F. H. Swindells and Stanley J. Wearing.

DAVIS : WILLIAM WINWOOD, Parliament Mansions, Victoria Street, Westminster, S.W.1 ; The Haven, Lime Tree Road, Heston, Middlesex. Proposed by H. W. Hetherington Palmer, James S. Gibson and And. N. Prentice.

GREGORY : WALLACE JAMES IGNATIUS DANIEL, 34 Millbank, Westminster, S.W.1 ; Broadwater, Oatlands Drive, Weybridge, Surrey. Proposed by Colonel M. K. Matthews, Horace White and Basil Hughes.

NICHOLSON : CHRISTOPHER DAVID GEORGE, 100 Fulham Road, S.W.3 ; 29 Paultons Square, Chelsea, S.W.3. Proposed by Edward Maufe, Kenneth M. B. Cross and Professor C. H. Reilly.

RIGBY : LEONARD, 271 Lord Street, Southport ; 43 Hatfield Road, Ainsdale, Lancs. Proposed by Norman Jones, George E. Tonge and Albert Schofield.

ROSS : DONALD, 62 Seagate, Dundee ; 1 Yewbank Avenue, Broughty Ferry, Angus. Proposed by P. H. Thoms, Chas. G. Soutar and J. Donald Mills.

ROSS : WILLIAM ARTHUR, 55 Tyrrel Street, Bradford, Yorks ; "Meldrey," Clayton Road, Bradford. Proposed by Eric Morley, Wm. Illingworth and J. A. Fletcher.

STOCKS : JOHN ELLIS, 7 Blenheim Terrace, Leeds ; Weeton Hall, Huby, near Leeds. Proposed by T. Butler Wilson, B. R. Gribbon and G. H. Foggitt.

WALKER : FRANK HUGH, Institute Buildings, Windermere ; Boot Gate, Windermere. Proposed by A. N. W. Hodgson, Arthur T. Nicholson and Theodore Fyfe.

AS ASSOCIATES (31)

ANNAN : WILLIAM ROBERTSON, Dip.Arch.Edin. [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], 15 Lauder Road, Edinburgh, 9. Proposed by James Macgregor, W. B. Simpson and F. C. Mears.

ASBRIDGE : VINCENT BARNES [Final], "Blancathra," Hurst Road, Bexley, Kent. Proposed by W. T. Curtis, G. L. Desmond Hall and T. Frank Hawkes.

BELLINGER : CLIFFORD [Final], c/o City Architects Department, Eagle House, Colston Avenue, Bristol, 1. Proposed by H. F. Hurcombe, Harold S. Rogers and J. Nelson Meredith.

BOYD : MISS DIANA FLORENCE [Passed five years' course at the Architectural Association. Exempted from Final Examination], H.M. Office of Works, Storey's Gate, Westminster, S.W.1. Proposed by Maurice Chesterton, L. H. Bucknell and R. Furneaux Jordan.

BRIGGS : BASIL IAN [Final], "Lyndhurst," 171 Chorley Road, Bamber Bridge, Nr. Preston. Proposed by L. W. Barnard, Eric Cole and Evan E. Morgan.

BROWN : MAURICE JOSEPH [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], College of Art, Lauriston Place, Edinburgh. Proposed by F. C. Mears, James Macgregor and W. B. Simpson.

DORMAN : ALLAN [Final], c/o Thomas T. Houston, Esq., "Kingscourt," Belfast. Proposed by John Seeds, R. H. Gibson and R. S. Wilshere.

DUXBURY : LESLIE [Final], Imperial Chemical Industries, Ltd., Estates Department, Northwich. Proposed by J. P. Jackson, Isaac Taylor and W. King.

EVERARD : NUTCOMBE GUY ST. GEORGE, B.Arch. [Passed five years' course at the School of Architecture, University College, Auckland, New Zealand. Exempted from Final Examination], 23 Vinson Close, Orpington, Kent. Applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

GEORGE : WILLIAM NORMAN BRUCE, B.Arch.L'pool [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], c/o Messrs. Pite, Son & Fairweather, 12 Carteret Street, Westminster, S.W.1. Proposed by Professor Lionel B. Budden, F. X. Velarde and Hubert M. Fairweather.

GLADSTONE : DAVID STEUART [Passed five years' course at the Architectural Association. Exempted from Final Examination], 56 Curzon Street, W.1. Proposed by R. E. Enthoven, G. A. Jellicoe and Verner O. Rees.

HALLIDAY : JOHN LAWRY, B.A. [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], H.M. Office of Works, Chief Architects Division, Great Westminster House, Horseferry Road, S.W.1. Proposed by C. Gustave Agate, Francis Jones and Thomas Taylor.

HAMILTON : GEORGE DOUGLAS [Passed five years' course at the Glasgow School of Architecture. Exempted from Final Examination], c/o J. D. Miller, Esq., 30 Walker Street, Edinburgh. Proposed by T. Harold Hughes, William J. Smith and William Ross.

HANCOCK : MISS MARY DOROTHEA [Special Final Examination], c/o Messrs. Mewes & Davis, 1 Old Burlington Street, W.1. Proposed by Charles H. Gage, Thos. E. Scott and Professor A. E. Richardson.

ILES : MISS DENISE ELIZABETH [Passed five years' course at the Leeds School of Architecture. Exempted from Final Examination], Hill Crest, Savile Town, Dewsbury. Proposed by Joseph Addison, F. L. Charlton and John C. Procter.

MADDOCKS : GEORGE EDWARD [Passed five years' course at the Architectural Association. Exempted from Final Examination], 91 Willingdon Road, Eastbourne. Proposed by G. A. Jellicoe, Verner O. Rees and Arthur W. Kenyon.

MANNING : ROGER DAVYS [Special Final Examination], 2 Pentley Park, Welwyn Garden City, Herts. Proposed by W. T. Curtis, T. F. Hawkes and Herbert A. Welch.

MARSHALL : ALEXANDER THEODORE [Passed five years' joint course at the School of Architecture, Dundee Technical College and School of Art and the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], c/o Mrs. Gass, 2 Viewforth Gardens, Edinburgh. Proposed by Chas. G. Soutar, Wm. Salmond and F. C. Mears.

MOFFETT : WILLIAM NOEL, B.Arch.L'pool [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], 84B South Hill Park, N.W.3. Proposed by Professor Lionel B. Budden, Francis Lorne and Professor C. H. Reilly.

MURPHY : HUGH GREGORY [Final], Police Architects' Department, New Scotland Yard, S.W.1. Proposed by L. Stuart Stanley and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

NIGHTINGALE : PAUL FORSTER [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], Miners' Welfare Committee, Romney House, Tufton Street, S.W.1. Proposed by Professor A. E. Richardson, J. H. Forshaw and J. A. Dempster.

PETERS : JOHN STUART [Final], State Management Districts, King's Buildings, Dean Stanley Street, S.W.1. Proposed by Harry Redfern, Joseph Seddon and Kenneth B. Mackenzie.

ROBERTSON : ALAN WILLIAM SNOWDON [Passed five years' course at the School of Architecture, King's College (University of Durham), Newcastle-upon-Tyne. Exempted from Final Examination], "Stapylton," Readhead Road, Westoe, South Shields. Proposed by W. B. Edwards, R. Norman Mackellar and W. Milburn.

ROHM : KARL ROBERT [Final], c/o Donald Hamilton, Esq., F.S.I., 17-19 Stratford Place, W.1. Proposed by W. E. Masters, Thos. E. Scott and Henry C. Smart.

ROWORTH : WILLIAM LESLIE [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], Department of Town Planning, Edinburgh College of Art. Proposed by John F. Matthew, James Macgregor and F. C. Mears.

SMITH : MISS CARMEN STELLA GREGORY [Final], c/o Louis de Soissons, Esq., Blue Ball Yard, St. James's Street, S.W.1. Proposed by Joseph Addison, Louis de Soissons and R. Furneaux Jordan.

TAIT : GORDON THOMAS [Passed five years' course at the Architectural Association. Exempted from Final Examination], 1 Montague Place, W.C.1. Proposed by Thos. S. Tait, Joseph Emberton and R. J. H. Minty.

THEARLE : LAURENCE BENNETT, B.Arch. [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], c/o Messrs. Willink &

Dod, Cunard Building, Liverpool, 3. Proposed by H. Spencer Silcock, Leonard Barnish and Harold A. Dod.

THOMPSON : ALAN [Final], Borough Surveyor's Department, Town Hall, Hove 3, Sussex. Proposed by Isaac Taylor and the Manchester Society of Architects under the provisions of Byelaw 3 (*a*).

WARD : ROGER VINCENT, B.Arch.L'pool [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], 12 Carteret Street, S.W.1. Proposed by Professor C. H. Reilly, Graham R. Dawbarn and Hubert M. Fairweather.

WILKS : JOHN CHAPMAN [Final], Norfolk Education Architects Department, Stracey Road, Norwich. Proposed by W. H. Robinson, S. H. Loweth and Edwin Jackson.

AS LICENTIATES (16)

BAINES : HERBERT, Surveyor's Department, Town Hall, Rochdale, Lancs ; 48 Princess Road, Firgrove, near Rochdale. Applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

BISHOP : WILFRED CHARLES JOHN MICHAEL, 15 Cromwell Road South, Whitstable. Proposed by H. Campbell Ashenden and the President and Hon. Secretary of the South-Eastern Society of Architects under the provisions of Byelaw 3 (*a*).

DANCEY : CYRIL VINSON, Bleak House, Station Road, Gloucester ; 17 Alexandra Road, Gloucester. Proposed by H. Stratton Davis, Basil Oliver and C. W. Yates.

DICKIE : WILLIAM ERNEST, Messrs. William Beardmore & Co., Ltd., Parkhead, Glasgow ; 204 Tantallon Road, Langside, Glasgow. Proposed by Gavin Lennox and the President and Secretary of the Royal Incorporation of Architects in Scotland under the provisions of Byelaw 3 (*a*).

HOLLAND : DOUGLAS JOHN, Architects' Department, London County Council, County Hall, S.E.1 ; 37 Waverley Gardens, West Twyford, N.W.10. Proposed by A. Y. Mayell, Stanley Hamp and Ernest G. Cole.

JACKMAN : ERNEST WILLIAM, Architects' Department, London County Council, County Hall, S.E.1 ; 59 Braybrooke Road, Hastings. Proposed by Chas. F. Callow, K. B. Mackenzie and W. E. Brooks.

MCARDLE : FRANCIS, B.Sc., M.Inst.C.E.I., 29 Rosemary Street, Belfast ; "Brookhampton," Andersonstown, Belfast. Proposed by James R. Young and the President and Hon. Secretary of the Royal Society of Ulster Architects under the provisions of Byelaw 3 (*a*).

MACGREGOR : JOHN WISHART, 9 Victoria Street, S.W.1 ; 11 Druids Way, Shortlands, Kent. Proposed by Thomas Wallis, Harold Dicksee and P. T. Wilsdon.

MARTIN : WALTER HARRY, c/o Messrs. Philpot & Lovell, 88 High Street, Tunbridge Wells ; "Oakholm," Farmcombe Road, Tunbridge Wells. Proposed by Stanley Philpot, Cecil Burns and B. D. Thompson.

MAUNDER : JOSEPH FRANCIS DE FAUBERT, Middlesex County Council, 20 Vauxhall Bridge Road, S.W.1 ; 27 Thornton Crescent, Old Coulsdon, Surrey. Proposed by Sidney C. Clark, W. T. Curtis and Sydney H. Meyers.

PARKER : JAMES, c/o Borough Engineer and Surveyor, Town Hall, Burnley ; 23 Pasturegate, Burnley. Proposed by Saml. Taylor and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

RUSHTON : LESLIE, 16 St. Helens Place, Bishopsgate, E.C.3 ; 117 St. Anthony's Avenue, Woodford Green, Essex. Proposed by Frederick G. A. Hall, Sidney C. Clark and F. E. Mennie.

SMITH : HERBERT LESLIE, 30 Ludgate Hill, E.C.4 ; 30 Grange Road, Gravesend, Kent. Proposed by L. Stuart Stanley, Sir Banister Fletcher and Professor A. E. Richardson.

SPRINGETT : ROBERT EDMUND, Civil Engineer's Department, British Broadcasting Corporation, W.1 ; 10 Basing Close, Thames Ditton, Surrey. Proposed by James Miller, W. E. Masters and G. Mackenzie Trench.

TAYLOR : LAWRENCE CYRIL RALPH, County Education Offices, Stafford ; "Hillgarth," Hyde Lea, Stafford. Proposed by A. C. H. Stillman, R. S. Wilshere and W. Geo. Davies.

WEALD : CHRISTOPHER GEORGE, Architects' Department, London County Council, County Hall, S.E.1 ; 26 Great Thrift, Petts Wood, Kent. Proposed by Paul Badcock, Felix J. Lander and Edwin Williams.

ELECTION : 19 JUNE 1939

In accordance with the terms of Byelaws 10 and 11, an election of candidates for membership will take place at the Council Meeting to be held on Monday, 19 June 1939. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary R.I.B.A. not later than Monday, 12 June 1939.

AS FELLOWS (3)

CRICKMAY : GEORGE HAYTER [*A.* 1924], 31 Court Chambers, Second Street, Springs, Transvaal ; 10 Standerton Road, Casseldale, Springs. Proposed by R. Stanley Cobb, Howard D. Archer and J. A. Hoogterp.

TEMPLE : ERIC EDWARD [*A.* 1913], Hunter Building, Ottawa, Canada ; 375 Metcalfe Street, Ottawa. Proposed by Robert H. Macdonald, Ernest Barrott and Philip J. Turner.

And the following Licentiate who has passed the qualifying Examination :—

JACKSON : LEONARD GEORGE, "Corner House," Nairobi, Kenya Colony ; Kilimano, Nairobi. Proposed by Howard D. Archer, P. Dangerfield and H. L. Geeson.

AS ASSOCIATES (10)

DARROLL : WILLIAM WALTER, Dip.Arch. [Passed a qualifying Examination approved by the Institute of South African Architects], London and Lancashire House, 148 St. George's Street, Cape Town, S. Africa. Proposed by H. J. Brownlee, F. M. Glennie and James Morris.

GRANT : MAJOR HORACE HENRY [Passed a qualifying Examination approved by the Institute of South African Architects], 9-14 Netherlands Bank Buildings, Smith Street, Durban. Proposed by Wallace Paton, G. T. Hurst and Robert Howden.

HORWOOD : ROBERT FREDERICK, B.Arch. [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Water Street, St. John's, Newfoundland. Proposed by Professor Lionel B. Budden, Edward R. F. Cole and J. Ernest Marshall.

LININGTON : WILLIAM HENRY ARTHUR [Passed a qualifying Examination approved by the Institute of South African Architects], Municipal Offices, Alcis Road, Newlands, Cape, S. Africa. Proposed by John Perry, James Morris and F. K. Kendall.

MCGOWAN : HAROLD DUDLEY SHIRLEY [Passed five years' course at the School of Architecture, University College, Auckland, New Zealand. Exempted from Final Examination], c/o Gummer & Ford & Partners, N.Z. Ins. Building, Auckland. Proposed by W. H. Gummer, C. Reginald Ford and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

MAIR : JOHN LINDSAY, B.Arch.N.Z. [Passed five years' course at the School of Architecture, University College, Auckland, New Zealand. Exempted from Final Examination], c/o Crichton, McKay & Haughton, 324 Lambton Quay, Wellington, N.Z. Proposed by J. W. Mawson and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

MAITRA : MONO MOHAN [Special Final Examination], Corporation of Calcutta, Calcutta, India. Proposed by Professor R. A. Cordingley, Francis Jones and C. Gustave Agate.

RENNIE : GRÆME WELSH [Passed a qualifying Examination approved by the Institute of South African Architects], c/o Brian Mansergh, Esq., Barclays Bank Buildings, St. George's Street, Cape Town, South Africa. Proposed by F. K. Kendall, H. J. Brownlee and Professor L. W. Thornton White.

SIMPSON : WILLIAM ROBERT [Passed five years' course at the School of Architecture, University College, Auckland, New Zealand. Exempted from Final Examination], P.O. Box 1168, Auckland, C.1, New Zealand. Proposed by C. Reginald Ford, W. H. Gummer and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

THORNTON : PETER MUSCHAMP [Passed five years' course at the Architectural Association. Exempted from Final Examination], c/o Bank of Montreal, 500 Granville Street, Vancouver, British Columbia, Canada. Proposed by G. A. Jellicoe and the President and Hon. Secretary of the Architectural Association under the provisions of Byelaw 3 (*b*).

Notices

THE NINTH GENERAL MEETING, MONDAY, 3 APRIL 1939, AT 8.30 P.M.

The ninth General Meeting of the Session 1938-1939 will be held on Monday, 3 April 1939 at 8.30 p.m., for the following purposes :—

To read the Minutes of the eighth General Meeting held on Monday, 6 March 1939.

To present the Royal Gold Medal 1939 to Mr. Percy E. Thomas, O.B.E., Hon. LL.D. Manch., P.-P.R.I.B.A.

Evening dress optional.

REVISION OF THE R.I.B.A. SCALE OF PROFESSIONAL CHARGES

In accordance with the terms of Bye-law 38 the Council published in the JOURNAL of 20 February for the comments and criticisms of members the proposal to amend Clause 8 of the Scale of Charges by the omission of the word "foregoing," which amendment was provisionally approved by them on 6 February.

No comments or criticisms were received from members and the Council at their meeting on 6 March formally ratified the amendment.

EXHIBITION ON "ROAD ARCHITECTURE : THE NEED FOR A PLAN" 1 TO 30 MARCH 1939

The exhibition entitled "Road Architecture : The Need for a Plan" will remain open at the R.I.B.A. until Thursday, 30 March, on weekdays from 10 a.m. to 8 p.m., Saturdays, 10 a.m. to 5 p.m.

In conjunction with the exhibition a new documentary film, "Roads Across Britain," will be shown on most days at 3 p.m., 4.30 p.m., 6.30 p.m. and 7.15 p.m.

BRITISH ARCHITECTS CONFERENCE, DUBLIN, 21-24 JUNE 1939

The Annual Conference this year of the Royal Institute of British Architects and its Allied and Associated Societies will be held in conjunction with the Centenary Celebration of the Royal Institute of the Architects of Ireland and will take place at Dublin from 21 to 24 June 1939.

The Royal Institute of the Architects of Ireland have in hand the preparation of a most attractive programme and particulars will be issued in due course.

All members and students of the R.I.B.A., and all members and students of the Architectural Association and the Allied Societies, are cordially invited to attend the conference.

It is expected that there will be a large attendance of members from all parts of the United Kingdom and Eire and they are urgently requested to arrange for their hotel accommodation at the earliest possible date so as to avoid the risk of disappointment.

The Executive Committee of the Conference have kindly furnished the following list of hotels with charges :—

	Room and Breakfast	Full Pension
	s. d.	s. d.
Gresham	11 6	22 6
Shelbourne	12 6	21 0
Hibernian	12 6	22 6
Salthill (Monkstown) ..	12 6	22 6
Jury's	10 6	18 6
County	8 0	13 6
Central	10 0	20 0
Standard	10 6	15 9
Grosvenor	8 6	13 6
Four Courts	8 6	15 0
Ivanhoe	9 0	13 0
Grand Hotel (Greystones, Wicklow Coast) ..	11 6	22 6

Greystones is 18 miles from Dublin. Train and bus services hourly. Return fares : Rail, third class 1s. 7d., first class 2s. 7d. Bus : 2s. 10d.

The Executive Committee of the Conference have obtained special terms for accommodation at the above hotels. Messrs. Thos. Cook & Son, Ltd., have made reservation for the Conference members. Early notification to them is advisable, mentioning the Architects' Conference.

ROYAL INCORPORATION OF ARCHITECTS IN SCOTLAND ANNUAL CONVENTION 1939

The Annual Convention of the Royal Incorporation of Architects in Scotland will be held within the area of the Edinburgh Architectural Association on Friday and Saturday, 2 and 3 June 1939, at Peebles.

BUILDING SURVEYING EXAMINATIONS

The R.I.B.A. Statutory Examination qualifying for candidature as District Surveyor in London and the R.I.B.A. Examination qualifying for candidature as Building Surveyor under Local Authorities will be held at the R.I.B.A. on 3, 4 and 5 May 1939. Applications for admission to the examinations must be received not later than 3 April 1939.

THE USE OF TITLES BY MEMBERS OF THE ROYAL INSTITUTE

In view of the passing of the Architects Registration Act 1938, members whose names are on the Statutory Register are advised to make use simply of the title "Chartered Architect" after the R.I.B.A. affix. The description "Registered Architect" is no longer necessary.

Members who are qualified for registration and have not already done so are reminded of the importance of applying for such registration without delay. Full particulars will be sent on application to the Secretary R.I.B.A.

LICENTIATES AND THE FELLOWSHIP

By a resolution of the Council passed on 4 April 1938, on and after 1 January 1939 all candidates whose work is approved will be required to sit for the examination, which will be the design portion of the Special Final Examination, and no candidates will be exempted from the examination.

NOTE.—The above resolution will not affect Licentiates of over 60 years of age applying under Section IV, Clause 4 (c) (ii) of the Supplemental Charter of 1925.

ASSOCIATES AND THE FELLOWSHIP

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the election to take place on 19 June 1939 they should send the necessary nomination forms to the Secretary R.I.B.A. not later than Saturday, 15 April 1939.

NEW BUILDING MATERIALS AND PREPARATIONS

The Science Committee wish to draw attention to the fact that information in the records of the Building Research Station, Garston, Watford, is freely available to any member of the architectural profession, and suggest that architects would be well advised, when considering the use of new materials and preparations of which they have had no previous experience, to apply to the Director for any information he can impart regarding their properties and application.

THE NATIONAL ASSOCIATION OF WATER USERS

Members are reminded that the National Association of Water Users, on which the R.I.B.A. is represented, exists for the purpose of protecting the interests of consumers.

Members who experience difficulties with water companies, etc., in connection with fittings are recommended to seek the advice of the Association. The address of the Association is 46 Cannon Street, London, E.C.4.

Competitions

The Council and Competitions Committee wish to remind members and members of Allied Societies that it is their duty to refuse to take part in competitions unless the conditions are in conformity with the R.I.B.A. Regulations for the Conduct of Architectural Competitions and have been approved by the Institute.

While, in the case of small limited private competitions modifications of the R.I.B.A. Regulations may be approved it is the duty of members who are asked to take part in a limited competition to notify the Secretary of the R.I.B.A immediately, submitting particulars of the competition This requirement now forms part of the Code of Professional Practice in which it is ruled that a formal invitation to two or more architects to prepare designs in competition for the same project is deemed a limited competition.

AUCKLAND, NEW ZEALAND: NEW CATHEDRAL

The General Trust Board of the Diocese of Auckland invite members of the New Zealand Institute of Architects resident in New Zealand or overseas to submit in competition designs for a new Cathedral.

Assessor: Sir Giles Gilbert Scott, R.A. [*F.*].

Premiums: £1,000, £400, £200 and £100.

Last day for submitting designs: 15 November 1939.

Last day for questions: 31 May 1939.

Conditions of the competition may be obtained on application to (*a*) The General Trust Board, P.O. Box 652, Auckland, New Zealand, or (*b*) The Secretary R.I.B.A., 66 Portland Place, London, W.1. Deposit £1 1s.

BLACKPOOL: FYLDE WATER BOARD NEW OFFICES

The Fylde Water Board invite architects practising in and having a professional address in the county of Lancashire to submit in competition designs for new Offices to be erected on a site in Park Road, Blackpool.

Assessor: Professor A. C. Dickie [*A.*].

Premiums: £300, £200 and £100.

Last day for submitting designs: 31 May 1939.

Last day for questions: 25 March 1939.

Conditions of the competition may be obtained on application to the Fylde Water Board, Sefton Street, Blackpool, Lancs. Deposit £1 1s.

CONSETT, CO. DURHAM: NEW COUNCIL OFFICES

The Consett Urban District Council invite Chartered and/or Registered Architects of British nationality to submit in competition designs for new Council Offices to be erected on a site in Market Square.

Assessor: Mr. R. Norman MacKellar [*F.*].

Premiums: £150, £100 and £75.

Last day for submitting designs: 15 June 1939.

Last day for questions: 4 March 1939

Conditions of the competition may be obtained on application to Mr. T. W. Bell, Clerk to the Urban District Council, Council Offices, Consett, Co. Durham. Deposit £1 1s.

EDINBURGH: NEW EXHIBITION HALL

The Lord Provost, Magistrates and Council of the City of Edinburgh invite architects in association with consulting engineers, both resident in Great Britain, to submit in competition designs for an Exhibition Hall, to be erected on the site of the present Waverley Market, Princes Street, Edinburgh.

Assessor: Mr. Thomas S. Tait [*F.*].

Premiums: 500 guineas, 300 guineas and 200 guineas.

Last day for submitting designs: 31 August 1939.

Last day for questions: 15 February 1939.

Conditions and instructions to competitors may be obtained on application to The Town Clerk, City Chambers, Edinburgh, 1. Deposit £2 2s.

EDINBURGH : NEW PRIMARY SCHOOL

The Lord Provost, Magistrates and Council of the City of Edinburgh invite architects resident or practising in Edinburgh to submit in competition designs for a new Primary School to be erected on a site at Tanfield.

Assessor : Mr. J. D. Cairns [*F.*].
Premiums : 100 guineas and 50 guineas.
Last day for submitting designs : 23 May 1939.
Last day for questions : 18 March 1939.

Conditions of the competition may be obtained on application to the Town Clerk, City Chambers, Edinburgh, 1. Deposit : £1 1s.

HUTTON, NEAR PRESTON, LANCS : NEW POLICE HEADQUARTERS

The Lancashire Standing Joint Committee for Police and other purposes invite Chartered and/or Registered architects to submit in competition designs for a new General Police Headquarters and Training School to be erected at Hutton, near Preston.

Assessor : Sir Percy Worthington, Litt.D., F.S.A. [*F.*].
Premiums : £500, £400 and £300.
Last day for submitting designs : 1 May 1939.
Last day for questions : 28 January 1939.

LAGOS, NIGERIA : NEW SUPREME COURT HOUSE

The Government of Nigeria invite architects of British nationality and resident in Great Britain and Africa who are members of the R.I.B.A. or of its Allied Societies to submit in competition designs for new Supreme Courts in Lagos, Nigeria.

Assessor : Mr. A. F. B. Anderson [*F.*].
Premiums : £500, £300 and £200.
Last day for submitting designs : 30 June 1939.
Last day for questions : 14 February 1939.

Conditions of the competition may be obtained on application to The Crown Agents for the Colonies, 4 Millbank, Westminster, London, S.W.1. Deposit £1 1s.

MARGATE : NEW CIVIC CENTRE

The Corporation of the Borough of Margate invite architects of British nationality who are members of the R.I.B.A. or its Allied Societies to submit in competition designs for a new Civic Centre to be erected on a site overlooking Hartsdown Park, Margate.

Assessor : Mr. A. F. B. Anderson [*F.*].
Premiums : £500, £300 and £200.
Last day for submitting designs : 31 August 1939.
Last day for questions : 31 March, 1939.

Conditions of the competition may be obtained on application to the Town Clerk, 40 Grosvenor Place, Margate. Deposit £1 1s.

COMPETITION FOR A DESIGN FOR A CAMP

The Building Centre is organising a competition for a Design for a Camp. A first prize of £200 is offered with a further sum of £100 to be awarded at the discretion of the Assessors.

The last day for submitting designs is 16 May 1939.

Particulars of the competition and site plan may be obtained on application to Mr. F. R. Yerbury, Building Centre, 158 New Bond Street, London, W.1. Price 2s. 6d.

FORTHCOMING COMPETITIONS

Other competitions which it is proposed to hold, and the conditions for which are not yet available, are as follows :—

BRIGHOUSE : NEW MUNICIPAL BUILDINGS
Assessor : Mr. James R. Adamson [*F.*].

EDMONTON : NEW TOWN HALL BUILDINGS
Assessor : Mr. E. Berry Webber [*A.*].

HARROW : NEW INFECTIOUS DISEASES HOSPITAL
Assessor : Mr. E. Stanley Hall [*F.*]

OLDHAM : ELECTRICITY OFFICES AND DEPARTMENTAL BUILDINGS
Assessor : Professor R. A. Cordingley [*F.*].

WREXHAM : NEW TOWN HALL
Assessor : Mr. Herbert J. Rowse [*F.*].

COMPETITION RESULT

BEDWORTH, WARWICKSHIRE : NEW COUNCIL OFFICES

1. Mr. Harry W. Weedon [*A.*].
2. Mr. Harold S. Scott [*A.*].
3. Messrs. Hickton, Madeley & Salt [*F.*, *A.*, *A.*].

Commended : Mr. T. Murray Ashford [*A.*].
Mr. Frank O. Osborne [*A.*].
Messrs. Philip B. Herbert [*A.*] and P. Skelcher [*Student*].
Mr. Harry W. Weedon [*A.*] (second design).

All the above architects or firms are of Birmingham. The competition was limited to registered architects in Warwickshire.

MEMBERS' COLUMN

Owing to limitation of space, notices in this column are restricted to changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and appointments vacant. Members are reminded that a column in the Advertisement Section of the Journal is reserved for the advertisements of members seeking appointments in architects' offices. No charge is made for such insertions and the privilege is confined to members who are definitely unemployed.

PRACTICE FOR SALE

OLD-ESTABLISHED Practice in Cathedral City, within 3 hours of London, for sale urgently owing to principal being appointed to public post. For disposal as an active business for nominal sum equal to value of office equipment, etc.—Fullest details available on application to Box 1639, c/o Secretary R.I.B.A.

PARTNER WANTED

FIRM of Architects with old-established genera practice in London and S.E. counties has vacancy for a Junior Partner, age about 30. Or would consider amalgamation with another architect having nucleus practice. Reply Box 1039, c/o Secretary R.I.B.A.

PARTNERSHIP FOR SALE

A PARTNERSHIP is offered in the Kampala branch of a well-established practice of an architect and surveyor in East Africa. Purchaser will have opportunity of eventually acquiring sole control of the practice. Apply Box 9339, c/o Secretary R.I.B.A.

PARTNERSHIP OR AMALGAMATION OF PRACTICES WANTED

ASSOCIATE with West End practice would consider partnership with another having prospects and capital. Alternatively amalgamating with another established architect or firm.—Apply Box 9239, c/o Secretary R.I.B.A.

MINUTES X

SESSION 1938-1939

At the Eighth General Meeting of the Session 1938-1939, held on Monday, 6 March 1939, at 8 p.m., Mr. H. S. Goodhart-Rendel, President, in the chair.

The meeting was attended by about 160 members and guests.

The minutes of the Seventh General Meeting held on Monday, 20 February 1939, having been published in the JOURNAL, were taken as read, confirmed and signed as correct.

The Hon. Secretary announced the decease of :—

Geoffrey Norman, elected Licentiate 1911, Fellow 1921.

Henry William Burrows, elected Associate 1889. Mr. Burrows was a past Chairman of the Science Standing Committee.

John Frederick Fogerty elected Associate 1894.

Cecil Joseph Morreau, elected Associate 1933. Mr. Morreau was Joint Hon. Secretary of the Science Standing Committee from 1936 to 1938, and represented the R.I.B.A. on the Building Divisional Council of the British Standards Institution.

And it was resolved that the regrets of the Institute for their loss be entered on the minutes and that a message of sympathy and condolence be conveyed to their relatives.

The following members attending for the first time since their election were formally admitted by the President :—

Associates

D. T. Jenkins
L. D. O'Brien
John C. Stones
R. A. Young

Licentiates

W. T. Morgan
H. G. Wilding

Mr. W. T. Benslyn, A.R.C.A. [*F.*], having read a paper on "Recent Architecture in the Provinces," a discussion ensued, and on the motion of Mr. James R. Adamson [*F.*], Vice-President, R.I.B.A., Chairman of the Allied Societies' Conference, seconded by Mr. Harold A. Dod [*F.*], President of the Liverpool Architectural Society, a vote of thanks was passed to Mr. Benslyn by acclamation and was briefly responded to.

The proceedings closed at 9.30 p.m.

Architects' and Surveyors' Approved Society

ARCHITECTS' ASSISTANTS' INSURANCE FOR THE NATIONAL HEALTH AND PENSIONS ACTS

Architects' Assistants are advised to apply for the prospectus of the Architects' and Surveyors' Approved Society, which may be obtained from the Secretary of the Society, 113 High Holborn, London, W.C.1.

The Society deals with questions of insurability for the National Health and Pensions Acts (for England) under which, in general, those employed at remuneration not exceeding £250 per annum are compulsorily insurable.

In addition to the usual sickness, disablement and maternity benefits, the Society makes grants towards the cost of dental or optical treatment (including provision of spectacles).

No membership fee is payable beyond the normal Health and Pensions Insurance contribution.

The R.I.B.A. has representatives on the Committee of Management, and insured Assistants joining the Society can rely on prompt and sympathetic settlement of claims.

Architects' Benevolent Society

66 PORTLAND PLACE, W.1

FOUNDED 1850

The object of the Society is to afford assistance to architects, architects' assistants, and their widows and children by means of grants and pensions.

Subscriptions and donations of any amount are urgently needed. An annual subscriber of £1 1s. is entitled to recommend annually two applicants for relief.

A.B.S. INSURANCE DEPARTMENT

THE ARCHITECTS' SPECIAL MOTOR CAR INSURANCE AT LLOYD'S

In conjunction with a firm of Lloyd's Insurance Brokers the Architects' Benevolent Society's Insurance Committee have devised a Special Motor Car Policy for Architects. This policy and the special advantages to be gained from it are available only to members of the Royal Institute of British Architects and its Allied and Associated Societies.

Special features include :

1. *Agreed values.* In the event of a total destruction or loss, insured value is agreed as the replacement value.
2. A cumulative no-claim bonus from 15 per cent., rising to 33⅓ per cent. in the fourth year.
3. No extra premium for business use of car by the insured in person.
4. Free manslaughter indemnity up to £250.
5. Free cover for loss of luggage, rugs, etc., up to £20.

SPECIMEN RATES FOR FULL COMPREHENSIVE POLICIES ARE GIVEN BELOW. OTHER RATES QUOTED ON APPLICATION

	Premium £	*s.*	*d.*
7 h.p. Austin, valued at £100	10	15	0
9 h.p. Standard, valued at £100	11	10	0
11 h.p. Morris, valued at £150	12	5	0
20 h.p. Hillman, valued at £300	16	5	0

(The rates shown do not apply to cars garaged in London and Glasgow and Lancashire manufacturing towns ; rates for these areas will be quoted on application.)

All enquiries with regard to the Special Motor Car Policy for Architects should be sent to the Secretary, A.B.S. Insurance Department, 66 Portland Place, W.1.

It is desired to point out that the opinions of writers of articles and letters which appear in the R.I.B.A. JOURNAL must be taken as the individual opinions of their authors and not as representative expressions of the Institute.

Members sending remittances by postal order for subscriptions of Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A. and crossed.

Members wishing to contribute notices or correspondence must send them addressed to the Editor not later than the Tuesday prior to the date of publication.

Back numbers of the JOURNAL can be obtained at the price of 1s. 9d., including postage throughout the world. For orders of more than six copies discounts are given. Orders must be prepaid.

R.I.B.A. JOURNAL

DATES OF PUBLICATION.—1939.—3, 24 April ; 8, 22 May ; 12, 26 June ; 17 July ; 14 August ; 18 September ; 16 October.

Violence

Supplement to THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS *March 20, 1939.*

BUILDING SCIENCE

QUESTIONS *and* ANSWERS

NOTES FROM THE INFORMATION BUREAU OF THE BUILDING RESEARCH STATION*

(4th Series, No. 8)

From time to time there have been included in these Notes discussions of selected topics not necessarily related to specific questions addressed to the Station, but rather a reflection of a body of inquiries submitted. There are a number of such topics which it is thought could usefully be discussed in that way, and it has therefore been decided that for a period of twelve months or so these Notes shall take the form essentially of such discussions. It is not intended, however, to adhere rigidly to this form, for any inquiries of special interest that may be received by the Station during the period will be dealt with as before.

DIRECTOR OF BUILDING RESEARCH.

MORTAR FOR BRICKWORK

The following note is a summary of available knowledge—the treatment is not exhaustive. It is presented in the hope that it may be found useful as a convenient résumé of existing information.

Three years ago a note was published in this series on Mortars for Brickwork. In spite of its wide circulation in the technical press numerous inquiries on the subject continue to be received and to meet this continuing demand the present rather more comprehensive note has been prepared.

There are prevalent misconceptions of the functions of mortar in brickwork. A common idea is that mortar is used to bind bricks firmly together and it is therefore often concluded that the mortar having the highest tensile strength is the best. This view is fallacious for two reasons:—

(i) Brickwork is not normally subjected to any tensile stress. In designing a tall factory chimney no account is taken of the possible development of tensile strength on the windward side: the work is designed to obtain its stability by the action of gravity and to resist compressive stress only, as all brickwork should be. A system has recently been developed in Austria in which bricks or blocks are simply laid on strips of slightly resilient padding, there being no tensile strength in the joints whatever.

(ii) The mortars which exhibit the highest tensile strength are not necessarily those which adhere most strongly to all types of bricks. A high tensile strength in the mortar is valueless unless there is good adhesion to the bricks on each side.

The true functions of mortar are to provide a means of building up from single units a mass of brickwork capable of withstanding a certain degree of compressive stress and exhibiting a reasonable resistance to the penetration of rain. To these requirements must be added that of durability. The characteristics of brickwork mortar are dictated by these requirements.

For providing resistance to the penetration of rain preference is often given to the densest types of mortar. This is a mistake. Experience shows that penetration of rain almost always occurs, not through the bricks or through the mortar, but through imperceptible hair cracks between the mortar and the bricks. Other channels through which penetration often occurs are poorly-filled vertical joints (at right angles to the wall face) and headers in 9-in. work when very porous bricks are used. The mortars which are in themselves very dense and impervious do not necessarily adhere best to all types of bricks. It follows that though a high tensile strength in mortar is not essential, a high degree of adhesion between brick and mortar is highly desirable. The ruling consideration in this connexion is not strength but weatherproofness.

CHARACTERISTICS DESIRABLE IN MORTAR

A good mortar for brickwork is one which:—

(*a*) Is easily workable, standing up well on the trowel but spreading easily out on the bricks; good workability and plasticity are required to enable vertical joints to be thoroughly filled.

(*b*) Stiffens up quickly as the bricks are laid, enabling work to proceed without delay.

(*c*) Adheres strongly to the bricks.

(*d*) Develops a sufficient compressive strength in the masonry.

Evidently since the properties of the bricks are involved in (*b*), (*c*) and (*d*) above, the same mortar will not be equally suitable for all kinds of bricks, but a composition must be selected which will suit the particular bricks used. Where high strength is not necessary, the choice will fall on a mortar of the highest possible degree of workability, but where strength is important it may be necessary to use a strong mortar, say plain cement mortar, at some sacrifice of ease in laying. Where engineering bricks are used, a strong mortar must be used, say 1 part of cement to 2½ parts of clean, well-graded sand, for the use of a weak mortar will obviously defeat the object of using engineering bricks, which is to carry high loads. The use of a highly plastic white lime mortar might be inconvenient with an engineering brick, or with any unit which had negligible absorption, such as glass blocks, for the first stage in the hardening of such mortar depends on abstraction of water by the unit and so the work might be delayed. On the other hand, a plain cement mortar is very difficult to use with highly absorptive units, even if they are wetted first, for the water in the mortar may be abstracted so rapidly that the film of cement in contact with the unit never sets properly and a channel is formed for penetration of rain. Mortars made from lime, or containing a high proportion of lime, are better in such cases, for they lose water less readily and so help to ensure good adhesion.

A general principle of wide application, which will usually lead to a wise choice of mortar, is that mortar should be compounded so that its strength is similar to, but somewhat less than, that of the unit it binds.

MATERIALS FOR MORTAR

The quantity of mortar used in a brick building is so great that considerations of transport cost will usually dictate the choice of materials, and local types will be used. This will involve the advantage that the mortar materials will be thoroughly familiar to the operatives, who will be able to use them skilfully and to the greatest advantage. The danger of importing materials from a distance is that the architect or builder is never sure that the local operatives understand how to handle them. Fortunately, a variety of combinations can be used to produce mortars not essentially different.

PORTLAND CEMENT

The quality of the various brands does not differ significantly as regards mortar making. Where a particularly white joint is required, white Portland cement should be used.

The setting process with Portland cement starts as soon as water is added, whether the mortar is used alone or mixed with lime. Any mortar in which cement is used should, therefore, be used up within about four hours, or the value of the cement will be reduced.

LIMES

The limes used in building work show a continuous gradation in properties between the pure, white (high calcium limes) and the eminently hydraulic ("Lias limes") but it is convenient to divide them into three main groups, viz.:—

(*a*) High calcium lime.

(*b*) Semi-hydraulic lime.

(*c*) Eminently hydraulic lime.

The limes may be sold either unslaked, or as dry-hydrates slaked to a dry powder at the works. In the latter case the manufacturers should be asked to give a guarantee of soundness.

A parallel series of limes exists which contain magnesia and are called magnesian limes, but there are few magnesian limes sold in this country which correspond with classes (*b*) and (*c*) above.

"*White Lime*" (more correctly defined as "high calcium lime").

This is available in two forms:—

(*a*) Lump lime, which is slaked to putty on the job. Slaking presents few special difficulties.

(*b*) Hydrated lime, i.e., in the form of a dry powder, prepared in the lime works. This needs no slaking on the job, but some builders prefer to make it up into mortar or putty and leave it for a few days before use.

These limes possess no hydraulic setting power. Any large mass of putty or mortar in a heap or pit will gradually improve in workability, but will not harden. The mortar immediately stiffens when it dries or when moisture is abstracted from it by contact with a brick. True hardening is very slow. A proportion of cement is commonly added when building with these limes to-day. This enables the

work to be carried up more quickly. A high degree of workability is a general characteristic of the white limes when slaked to putty. The dry hydrates are also reasonably plastic. The combination of the plasticity of the lime with the hydraulicity of Portland cement yields a mortar of excellent characteristics.

"*Grey Lime*" (more correctly defined as semi-hydraulic limes).

These limes, of which grey-stone lime is an example, occupy a position intermediate between the high calcium and the eminently hydraulic limes. When slaked to putty they approach the high calcium limes in plasticity, though some interference with their hydraulic properties is almost certain. If a strong mortar is required it is then advisable to gauge with cement.

When dry-hydrated in the lime works this difficulty of the destruction of hydraulic power in slaking is overcome. These dry hydrates can be used with confidence to yield a mortar of fair workability and moderate strength. In very cold weather or when increased strength is desired a gauging of cement should be used. A similar effect to dry hydration can be produced by slaking in a pile, covered with sand.

EMINENTLY HYDRAULIC ("LIAS") LIME

Eminently hydraulic limes resemble Portland cement in composition, but are burnt at a lower temperature. They contain free lime, but not enough to slake readily with evolution of heat. They differ from limes of the previous class in attaining their strength much sooner, and in not being usually so plastic or workable. These limes may be slaked on the job or purchased as dry hydrates. In the former case they are usually slaked with a minimum of water and in such a manner as to conserve heat, e.g., in a pile covered with sand. To facilitate slaking they are often sold in powder form, but should then be carefully distinguished from the dry-hydrated limes in this class. The latter only require to be *mixed* with sand and brought to a plastic condition with water. They are then immediately ready for use. Hydraulic lime, suitably slaked, is an ideal mortar for many classes of bricks, since it combines good workability with a moderate strength. (See under Sands, page 5.) Hydraulic lime should not be gauged with cement as a general rule.

MAGNESIAN LIME

British magnesian limes in general resemble in their characteristics the white limes already discussed though there are one or two of them which contain hydraulic constituents. It is generally considered that the magnesium oxide they contain aids the hardening of the lime so that, after a period, a magnesian lime mortar will be harder than the corresponding high calcium lime mortar. Magnesium oxide does not hydrate as readily as calcium oxide, and for this reason precautions are taken in slaking to conserve heat, very like those applied with hydraulic limes. This is to obviate risk of unsoundness.

A summary of the characteristics of limes from the point of view of their use in mortar for brickwork is given in Table 1.

CHOICE OF MORTAR COMPOSITION FOR VARIOUS CLASSES OF BRICKS

It has been pointed out that mortars should be compounded to suit the characteristics of the bricks used. This adjustment cannot be by any means precise and quite a wide range of compositions will be suitable in many instances. The following suggestions should be regarded as indicative merely and not as precise recommendations.

Bricks can be divided according to their strength into three classes which roughly conform with the grading according to absorption. The composition of suitable mortars is shown in Table 2.

Stronger or weaker mortars can be used with each of the first two classes, and the corresponding approved loadings are given in the Model Bye-laws.

METHODS OF PREPARATION

Mortars containing lime and cement may be made from the dry-hydrated limes simply by mixing in the required proportions and then adding water, but it is often convenient and more economical to base the mortar on limes and coarse stuff. The lime in this will usually have been wet-slaked and have developed its maximum plasticity. A (roughly) 1 : 3 : 12 mix will be obtained by merely adding 1 part of cement to 10 or 12 of coarse stuff. If a stronger mortar is desired, say 1 : 1 : 6, it will not be enough to add cement alone, for assuming the coarse stuff is 1 : 3 the addition of 1 part of cement to 3 parts of coarse stuff will give a 1 : 1 : 3 mix which will be far too rich and very uneconomical. To correct the ratios 3 volumes of sand must be added also.

EFFECT OF MORTAR COMPOSITION ON STRENGTH OF BRICKWORK

The strength of brickwork, built with bricks of intermediate strength, is not so much influenced by the strength of the mortar as is often supposed.

TABLE I

Characteristics of Lime and Cement affecting their Use in Mortar for Brickwork.

	(1) High Calcium (stone lime, white chalk lime).	(2) Semi-hydraulic (grey-stone lime).	(3) Eminently Hydraulic ("Lias Lime").	(4) Portland cement (white or grey).
Plasticity.	Very high.	Good.	Fair to poor.	Less than (1) or (2).
Hydraulic strength.	Nil. Stiffens on abstraction of water, and then hardens very slowly and gradually by absorption of carbon dioxide from the air.	Setting takes up to 3 weeks. Low early strength. Moderate final strength.	Setting takes place in a few days. Moderate final strength.	Higher hydraulic strength than any lime. Strength is attained earlier and final strength is far higher.
Permeability (of mortar).	High.	High.	Moderate.	Very low.
Suitability for gauging with cement.	Highly suitable.	Suitable.	Usually unnecessary, often undesirable.	—
Method of slaking.	Run to putty.	Run to putty or slake in pile if hydraulic strength required.	Slake in pile.	—
Period of storage.	As long as possible.	Brief period 1–2 days if to be used alone. If slaked longer gauge with cement.	Varies according to type. Not more than 1–2 days or hydraulic strength will be impaired.	Must be used up within a few hours after mixing. Prepared mortar becomes more workable up to 4–6 hours storage, but strength will be "killed" if kept longer.

TABLE II

Crushing strength of brick in lb. per sq. in.	Composition of mortar (parts by volumes).	Maximum permissible pressure (uniformly distributed) in tons per sq. ft. of overall area of wall or pier according to Model Bye-laws.
1,500–3,000 (Examples: Flettons, gaults, ordinary stocks, Class A Sand Lime Bricks).	1 cement 3 lime 12 sand or 1 hydraulic lime 2½ sand	5·5
3,000–5,000 (Examples: Some flettons, hard stocks, some red wire cuts, many "Special purposes" sand lime bricks).	1 cement 1 lime 6 sand	10
over 5,000 (Examples: All clay engineering bricks).	1 cement 3 sand	16

A mortar containing quite a high proportion of lime may give results hardly inferior to those with cement. As strength is often not the prime consideration, and in view of the importance from the point of view of weatherproofness of having well-filled joints and good adhesion, the advantages of the "gauged" or "compo" mortars will be apparent. The effects of mortar composition on the strength of brickwork has been most thoroughly studied in the case of fletton bricks (crushing strength 2,500–3,000 lb. per sq. in.). A series of results obtained are represented diagrammatically in Figure 1.

SANDS

The foregoing discussion has been confined to the cementitious constituents of mortar, but some reference must be made to the characteristics of sand. Fortunately, the requirements for sand for brickwork mortar are not stringent, the position being far different in the case of sand for concrete; nevertheless there are several points deserving attention.

(1) Well-graded sand (by which is meant one containing proportions of all grain sizes) will yield a workable mortar with less lime and cement than sand which consists of grains which are all of one size. Fine sands of uniform grain size should be avoided if possible.

(2) Sands must be chosen with care when using hydraulic lime. Very fine sands will yield a joint which can be rubbed away, unless a rich mix is used. Loam interferes with the set of hydraulic lime and cement, and this may be serious in the case of the lime owing to its relatively feeble hardening properties. Sand for hydraulic lime should be clean and well-graded. A mix of 1 : 2½ or 1 : 3 will be suitable.

(3) The presence of a *small* proportion of loam (2–5 per cent) need not be objected to in cement or compo mortars. The loam or clayey material will act rather like lime, making the mortar more workable. An excess of loam or clay may be objectionable as it will increase the liability to shrinkage. If the sand is heavily loaded with clay and silt, it will be advisable to reduce the lime in the mix to compensate for it. The reason is as follows. Suppose that a 1 : 1 : 6 mix is required. If a sand is used containing 10 per cent of the loam the true proportions are:—

1 part cement.
1 „ lime.
6/10 „ loam or clay.
5 4/10 parts sand.

Assuming the clay to be in some respects equivalent to the lime, the mix is roughly 1 : 2, which is rather too rich in fine material. Also the ratio of lime and clay to cement is 1.6 to 1, not 1 to 1 as was desired and the mortar will, therefore, be much weaker than was intended. Experienced craftsmen instinctively make adjustments to meet difficulties of this sort, and this doubtless accounts for the many examples of good work performed with most unpromising materials. Where the element of skill is lacking, the most rigid specification cannot prevent trouble.

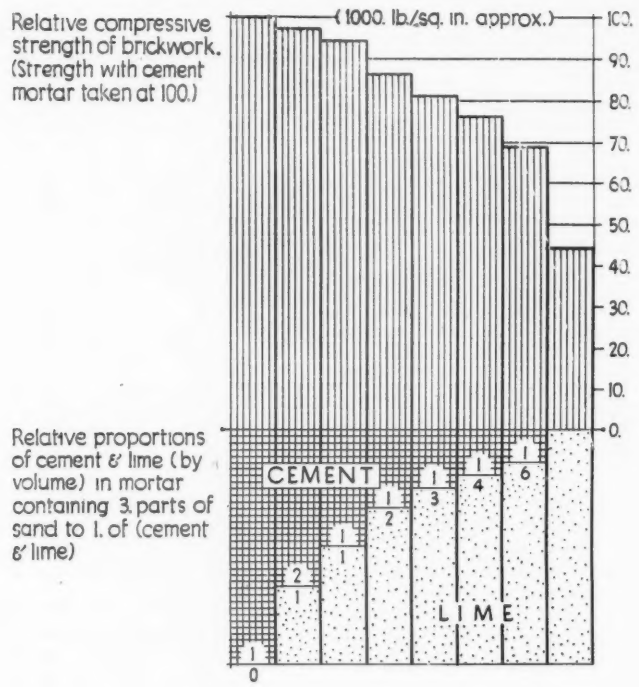


FIGURE 1. Effect of mortar composition upon the strength of fletton brickwork. (Compressive strength of bricks 2685. lb. per sq. in.)

PRINCIPLES OF MODERN BUILDING
VOL. I. WALLS, PARTITIONS AND CHIMNEYS

ERRATA

The Building Research Station is indebted to readers of "Principles of Modern Building, Vol. 1. Walls, Partitions and Chimneys," who have called attention to the following errors:—

Page 152. Table 27, Column 3.

The entry opposite "Metals" should read—

$(X\ 10^{-6})$

Page 175. Section Heading.

For "Movements due to changes in moisture cement" read "Movements due to changes in moisture content."

Page 247. Table 42.

In column "Type of mortar recommended," under B(2) and C(1):—

For " Lime : cement : sand mixes " read " Cement : lime : sand mixes."

The following notes have been published in the current series:

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